Virginia Board of Education Agenda Item

Agenda Item: H **Date:** March 27, 2014

Title	First Review of Request for Approval of an Innovative Program Opening Prior to Labor Day for Martinsville City Public Schools		
Presenter	Ms. Anne D. Wescott, Assistant Superintendent for Policy and Communications Mrs. Pamela Heath, Superintendent, Martinsville City Public Schools		
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Purpose of Presentation:
Action required by state or federal law or regulation.

Previous Review or Action:
No previous review or action.

Action Requested:
Action will be requested at a future meeting. Specify anticipated date below:
Date: April 24, 2014
Action: Final review

Alignment with Board of Education Goals: Please indicate (X) all that apply:

	Goal 1: Accountability for Student Learning
	Goal 2: Rigorous Standards to Promote College and Career Readiness
	Goal 3: Expanded Opportunities to Learn
	Goal 4: Nurturing Young Learners
	Goal 5: Highly Qualified and Effective Educators
X	Goal 6: Sound Policies for Student Success
	Goal 7: Safe and Secure Schools
	Other Priority or Initiative. Specify:

Goal 6: The review of the request to waive the requirement that the school year would begin prior to Labor Day, pursuant to § 22.1-79.1 of the *Code of Virginia* relates to the goal that the Board will provide leadership in the development and implementation of state and federal laws and regulations in ways that provide sound policies for student success.

Background Information and Statutory Authority:
Section 22.1-79.1 of the *Code of Virginia* prohibits local school boards from adopting school calendars that require schools to open prior to Labor Day unless a waiver is granted by the Board for "good cause." The conditions under which the Board may grant such waivers are outlined in the *Code.* The provision that permits the Board to approve a waiver for an experimental or innovative program may be found in § 22.1-79.1 as follows:

§ 22.1-79.1. Opening of the school year; approvals for certain alternative schedules.

A. Each local school board shall set the school calendar so that the first day students are required to attend school shall be after Labor Day. The Board of Education may waive this requirement based on a school board certifying that it meets one of the good cause requirements of subsection B.

B. For purposes of this section, "good cause" means:

1. A school division has been closed an average of eight days per year during any five of the last 10 years because of severe weather conditions, energy shortages, power failures, or other emergency situations;
2. A school division is providing, in the school year for which the waiver is sought, an instructional program or programs in one or more of its elementary or middle or high schools, excluding Virtual Virginia, which are dependent on and provided in one or more elementary or middle or high schools of another school division that qualifies for such waiver. However, any waiver granted by the Board of Education pursuant to this subdivision shall only apply to the opening date for those schools where such dependent programs are provided;
3. A school division is providing its students, in the school year for which the waiver is sought, with an experimental or innovative program which requires an earlier opening date than that established in subsection A of this section and which has been approved by the Department of Education pursuant to the regulations of the Board of Education establishing standards for accrediting public schools. However, any waiver or extension of the school year granted by the Board of Education pursuant to this subdivision or its standards for accrediting public schools for such an experimental or innovative program shall only apply to the opening date for those schools where such experimental or innovative programs are offered generally to the student body of the school. For the purposes of this subdivision, experimental or innovative programs shall include instructional programs that are offered on a year-round basis by the school division in one or more of its elementary or middle or high schools; or
4. A school division is entirely surrounded by a school division that has an opening date prior to Labor Day in the school year for which the waiver is sought. Such school division may open schools on the same opening date as the surrounding school division….

For the 2013-2014 school year, 57 school divisions have a waiver for weather-related reasons; six have dependent programs; ten are entirely surrounded by a school division that has an opening date prior to Labor Day; three school divisions have one or more schools with waivers because they are year-round schools; and two school divisions have waivers for innovative or experimental programs that are not year-round schools. Martinsville City Public Schools (MCPS) meets the requirement for Option 4 as it is surrounded by Henry County which has a weather-related waiver.

The 2012 General Assembly added language to the Appropriation Act to maintain current waivers, and the 2013 General Assembly extended the waiver through the 2013-2014 school year. The Governor's 2014-2016 Budget Bill would extend the waiver for two additional years. Item 136.A.17 of HB 30 and SB 30 says:

To provide additional flexibility, notwithstanding the provisions of § 22.1-79.1 of the Code of Virginia, any school division that was granted a waiver regarding the opening date of the school year for the 2011-12 school year under the good cause requirements shall continue to be granted a waiver for the 2014-15 school year and the 2015-2016 school year.

Summary of Important Issues:
The Martinsville City School Board is requesting approval of an innovative program for Clearview Early Childhood Center, Albert Harris Elementary School, Patrick Henry Elementary School, Martinsville Middle School, and Martinsville High School. Approval of this request would permit all of these schools to open prior to Labor Day. In order to provide the maximum educational benefit for students, it is important that all of these schools operate on the same calendar.

Martinsville City Public Schools (MCPS) is a small, rural school division consisting of Martinsville High School (9-12), Martinsville Middle School (6-8), Patrick Henry Elementary School (K-5), Albert Harris Elementary School (K-5), and Clearview Early Childhood Center (PK). The most recent data shows Martinsville as having 27% of its residents living in poverty. The median household income for Martinsville is $29,701. Of the 2,286 children enrolled in MCPS, 75% or 1,715 receive free or reduced meal prices. As to residents living in poverty, Martinsville ranks 130 (the fifth highest) out of 134 localities in Virginia.

Since May 2007, Martinsville City has led the state in unemployment for all but two months. As of November 2013, Martinsville had an unemployment rate of 13.7% as compared to the state rate of 5%. The two largest industries are services (education, healthcare, etc.) at 44.7% and manufacturing at 22.4%. Due to loss of furniture and textile manufacturing, Martinsville suffered an economic crisis from which it is slowly recovering. The Martinsville-Henry County Economic Development Corporation (EDC) has worked to create new jobs and opportunities and support and develop local industries. However, that is just one piece of the focus for this organization. Because the area was previously supported by the many manufacturing jobs in the area, college attendance was not part of the culture for many families in the area.

Starting in April 2012, MCPS leaders began working collaboratively with leaders from the Harvest Foundation, Patrick Henry Community College, New College Institute, Henry County Public Schools, and the EDC. Through the committee's work, it has been determined that there are growing demands in the areas of advanced manufacturing (engineering), information technology, and health care. To address these needs, these organizations have collaborated to develop the MHC STEM Pipeline Initiative.

The MHC STEM Pipeline Initiative is an innovative program with research-based, positive student outcomes at each program level that will have short-term and long-term positive economics for the community. For Clearview Early Childhood Center, the anticipated outcome is an increase in the students' number sense upon entering kindergarten. With the free and reduced lunch rate at Clearview at 96%, Albert Harris Elementary at 96%, and Patrick Henry Elementary at 64%, the mathematics achievement gap as related to socioeconomic status is of particular concern. For Albert Harris Elementary and Patrick Henry Elementary Schools, the expected outcomes are the development of critical thinking and problem solving skills while strengthening mathematics and science skills through application in STEM inquiry-based/project-based learning, improved student performance on Standards of Learning (SOL) mathematics and science assessments, increased student knowledge and interest in STEM disciplines, and increased parent and student awareness of post secondary education opportunities. For Martinsville Middle School, the expected outcomes are to continue developing

critical thinking and problem solving skills, as well as communication and collaboration skills. In terms of student performance, the outcomes are to improve student performance on the SOL mathematics assessments as well as increase the number of students receiving verified credits in Algebra I and geometry in middle school. Expected outcomes for high school students include those related to increasing the number of students earning Associates Degrees while in high school, developing critical thinking and problem solving skills as well as communication and collaboration skills, improving student performance on SOL mathematics and science assessments, and increasing the number of students receiving credits in Algebra II.

Currently 54% of MCPS graduates plan to attend four-year colleges and 18% plan to attend two-year programs. One of the program goals is to facilitate an increase in both categories.

Opening prior to Labor Day in order to align with college schedules is essential in maintaining dual enrollment course offerings and STEM Pipeline activities at all levels of schooling. Through collaboration with Patrick Henry Community College, the New Community College, and Virginia State University, Martinsville Public Schools reports that it has a very successful dual enrollment program. In its application, it also indicated that it is important that the academic year closely align with the colleges and Henry County academic year schedules since the dual enrollment programs involve sharing of faculty and on-site courses from Patrick Henry Community College, the New Community College, and Virginia State University. A Pre-Labor Day opening allows fall SOL testing which eliminates the need for remediation and review after an extended break. In addition, with limited funding and resources, many of the families benefit economically from the dual enrollment option. At the middle and elementary school levels, the alignment of schedules is also crucial for continuation of the initiative. Starting after Labor Day would cause one quarter of the school division's middle school students to be denied equal access to the expanded K-8 Science, Engineering, and Math Aerospace Academy in partnership with Virginia State University due to the nine-week rotation schedule of the middle school exploratory wheel. It would also push the end of the school year into June and limit the access to college facilities and faculty, as well as limit summer programs.

For the innovative PK-12 robotics program and the grades 4-12 FIRST Robotics Competition (FRC), a start date prior to Labor Day is essential. The start date for competition season preparation which is set by the international FIRST organization is in August with competitions in November. It is during this time that students learn the skills of critical thinking, problem solving, communication, and collaboration. Starting after Labor Day limits the amount of instructional time students will spend developing these skills. As the mathematics performance data is showing that this program has a positive impact on student performance in mathematics, all students should have access to this curriculum.

A copy of the complete package submitted by the Martinsville City School Board is attached.

Impact on Fiscal and Human Resources:
The impact on state funds for this request is expected to be minimal.

Timetable for Further Review/Action:
This item will be presented to the Board of Education on April 24, 2014 for final review.

Superintendent's Recommendation:
The Superintendent of Public Instruction recommends that the Board accept for first review Martinsville

City Public Schools' request for a waiver to open school prior to Labor Day.

Guidelines for Considering and Approving Requests
for Pre-Labor Day Openings
Approved by the Board of Education on March 28, 2013

Statutory Authority

Section 22.1-79.1 of the *Code of Virginia* governs the conditions under which the Board of Education may grant a waiver to a local school board to open school prior to Labor Day.

§ 22.1-79.1. Opening of the school year; approvals for certain alternative schedules.

A. Each local school board shall set the school calendar so that the first day students are required to attend school shall be after Labor Day. The Board of Education may waive this requirement based on a school board certifying that it meets one of the good cause requirements of subsection B.

B. For purposes of this section, "good cause" means:

1. A school division has been closed an average of eight days per year during any five of the last 10 years because of severe weather conditions, energy shortages, power failures, or other emergency situations;

2. A school division is providing, in the school year for which the waiver is sought, an instructional program or programs in one or more of its elementary or middle or high schools, excluding Virtual Virginia, which are dependent on and provided in one or more elementary or middle or high schools of another school division that qualifies for such waiver. However, any waiver granted by the Board of Education pursuant to this subdivision shall only apply to the opening date for those schools where such dependent programs are provided;

3. A school division is providing its students, in the school year for which the waiver is sought, with an experimental or innovative program which requires an earlier opening date than that established in subsection A of this section and which has been approved by the Department of Education pursuant to the regulations of the Board of Education establishing standards for accrediting public schools. However, any waiver or extension of the school year granted by the Board of Education pursuant to this subdivision or its standards for accrediting public schools for such an experimental or innovative program shall only apply to the opening date for those schools where such experimental or innovative programs are offered generally to the student body of the school. For the purposes of this subdivision, experimental or innovative programs shall include instructional programs that are offered on a year-round basis by the school division in one or more of its elementary or middle or high schools; or

4. A school division is entirely surrounded by a school division that has an opening date prior to Labor Day in the school year for which the waiver is sought. Such school division may open schools on the same opening date as the surrounding school division….

The Board of Education will consider the following guidelines in approving requests of local school boards to open one or more schools prior to Labor Day.

Waiver by Superintendent on Board's Behalf

The Board of Education delegates to the Superintendent of Public Instruction the authority to approve, on its behalf, a local school board's request for a waiver to open all schools in the division prior to Labor Day if the school division meets one of the following good cause requirements of subsection § 22.1-79.1 B.

- The school division has been closed an average of eight days per year during any five of the last 10 years because of severe weather conditions, energy shortages, power failures, or other emergency situations. (§ 22.1-79.1 B. 1)

- The school division is entirely surrounded by a school division that has an opening date prior to Labor Day in the school year for which the waiver is sought. Such school division may open schools on the same opening date as the surrounding school division. (§ 22.1-79.1 B. 4)

Waiver by Board of Education Action

The Board of Education will consider a local school board's request for a waiver to open one or more schools in its division prior to Labor Day if one of the following good cause requirements of subsection § 22.1-79.1.B. are met. The Board will not provide advisory opinions or hypothetical waivers. The local school board must certify that if granted a waiver, the division intends to provide the program in the school year for which the waiver is being sought.

- The school division is providing an instructional program or programs in the schools for which the waiver is requested, excluding *Virtual Virginia*, which are dependent on and provided in one or more schools of another school division that qualifies for a waiver to open prior to Labor Day. Any waiver granted by the Board of Education pursuant to this provision shall *only* apply to the opening date for those schools where such dependent programs are provided. (§ 22.1-79.1 B. 2)

- The school division is providing its students with an experimental or innovative program, which *requires* the school to open prior to Labor Day. Any waiver granted by the Board of Education pursuant to this provision shall *only* apply to the opening date for those schools where such experimental or innovative programs are offered generally to the student body of the school. (§ 22.1-79.1 B. 3)

Experimental and Innovative Program Considerations

- In accordance with § 22.1-79.1of the Code of Virginia, experimental or innovative programs shall include instructional programs which are offered on a year-round basis by a school division in one or more of its elementary, middle, or high schools.

- An *experimental program* is defined, for purposes of a waiver, as a program which is operated under controlled circumstances and which is designed to test and to establish, by objective

measures, the positive cognitive effect of an educational theory. The experimental program must be offered generally to the student body of the school.

- An *innovative program* is defined, for purposes of a waiver, as an educational program that implements creative, original, or new ideas or methods and are likely to result in better outcomes for student participants. The innovative program must be offered generally to the student body of the school.

- Any experimental or innovative program must ensure parental and community involvement.

Application for Waiver

1. The initial request for a waiver to approve an experimental or innovative program, including a year-round school program, shall be submitted to the Board of Education for approval. Once the initial approval is granted by the Board of Education, the Superintendent of Public Instruction is hereby delegated authority to continue to approve the waiver in subsequent years, unless the Board places conditions or time limits on its approval, or unless the Superintendent determines that the conditions under which the approval was granted to the local school board are changed.

2. The local school board shall submit annually to the Superintendent of Public Instruction certification of eligibility for a waiver of the "good cause" requirements of § 22.1-79.1, *Code of Virginia*. Such certification shall be made in a manner prescribed by the Superintendent of Public Instruction. School divisions must maintain evidence that such "good cause" conditions have been met.

3. To request approval of a waiver for weather-related or other emergency conditions, the local school board shall submit information annually indicating that the school division has been closed for an average of eight days per year in any five of the past ten years because of severe weather conditions, energy shortages, power failures, or other emergency conditions.

4. To request initial approval of a waiver to open before Labor Day by a school division that is completely surrounded by another school division that has been approved for a waiver, the school division shall submit the request to the Superintendent of Public Instruction by letter signed by the superintendent and the chairman of the local school board. The Superintendent of Public Instruction shall determine that the school division is completely surrounded by another school division, and that the other school division has been granted a waiver to open before Labor Day. Once the initial waiver is granted, the local school board shall submit information annually to the Superintendent of Public Instruction indicating that the conditions under which a waiver was granted have not changed.

5. To request approval of a waiver for a dependent program, the local school board shall submit information annually indicating that each school for which a waiver is requested provides an instructional program, excluding Virtual Virginia, which is dependent upon a school in another division that qualifies for a waiver.

6. To request initial approval of a waiver for a pre-Labor Day opening for an experimental or innovative program, the local school division shall submit such request to the Board of Education on a form prescribed by the Superintendent of Public Instruction at least 180 calendar days prior to the expected implementation date. Such a request shall set forth a thorough

explanation of the experimental or innovative program as well as the specific reasons that would compel a pre-Labor Day opening. The Department is available throughout the application process to provide technical assistance to the applicant. The following procedures apply to the initial application for experimental or innovative programs:

a. The experimental or innovative program must be approved by the Board pursuant to its *Regulations Establishing Standards for Accrediting Public Schools in Virginia* at 8 VAC 20-131-290. The request must include:

   1) The names of the participating schools and the school division requesting the waiver.
   2) The purpose and objectives of the experimental/innovative/year-round program: Describe how the school meets the definition of experimental or innovative or year-round school and its goals and objectives. Include the title of the program or activity, a program description, the rationale for the program, the number and names of all schools involved, the names of any other organizations, including colleges, universities, and other postsecondary organizations and community organizations that are involved in the program, the grades served, the names of any other school divisions involved in the program, and other relevant information.
   3) An explanation of the necessity for opening prior to Labor Day, including the proposed school year calendar's opening and closing dates as well as a general description of the school calendar and duration of the waiver. This explanation must show that this request meets the "good cause" requirements of §22.1-79.1. B.3, *Code of Virginia*.
   4) Anticipated outcomes, including an explanation as to why it is believed the program will be a success.
   5) Number of students affected, including demographic information describing the students who will be attending and the community the school serves.
   6) Evaluation procedures including mechanisms for measuring goals and objectives, and analysis of data, to determine how this program will support an expected increase in proficiency in student academic achievement and any achievement gap.
   7) Other anticipated outcomes.
   8) Any other information that will support the request for a Pre-Labor Day waiver.

   Each pre-Labor Day waiver request must be approved by the local school board and signed and dated by the chairman of the school board and the school superintendent and forwarded to Superintendent of Public Instruction.

b. Any waiver or extension of the school year granted by the Board pursuant to the experimental or innovative program provisions contained in § 22.1-79.1 of the *Code of Virginia*, or the Board's *Regulations Establishing Standards for Accrediting Public Schools in Virginia* shall apply only to the opening date for those schools where such experimental or innovative programs are offered generally to the student body of the school.

c. To request approval of a waiver for a pre-Labor Day opening for an experimental or innovative program subsequent to the Board of Education's initial approval, unless the Board of Education has specified conditions under which the waiver request must go back to the Board for approval, or the Superintendent determines that the conditions under which the initial approval was granted to the local school board have changed, the local school board shall submit information annually to the Superintendent of Public Instruction as part of the pre-Labor Day waiver self-certification process for public schools with pre-Labor Day

waivers. The submission shall include evidence of the results achieved throughout the experimental or innovative program in prior years.

Reports to the Board of Education

- The Board of Education may request that the Superintendent of Public Instruction provide a report to the Board regarding the status of certifications submitted and waivers granted under the above-stated policies. Such report shall be provided in a manner and at a time as agreed to by the Superintendent and the President of the Board and shall include information deemed pertinent by the Superintendent of Public Instruction.

- Any information required to be submitted to the Superintendent of Public Instruction for a pre-Labor Day waiver shall be submitted to the:

Office of Policy
Virginia Department of Education
P.O. Box 2120
Richmond, VA 23218-2120
Policy@doe.virginia.gov
804-225-2092

COMMONWEALTH OF VIRGINIA
BOARD OF EDUCATION
P.O. Box 2120
RICHMOND, VIRGINIA 23218-2120

REQUEST FOR WAIVER OF CERTAIN ACCREDITING STANDARDS AND/OR APPROVAL OF AN INNOVATIVE OR EXPERIMENTAL PROGRAM

The *Regulations Establishing Standards for Accrediting Public Schools in Virginia*, (8 VAC 20-131-10 et seq.) sets the minimum standards public schools must meet to be accredited by the Board of Education. Accreditation of public schools is required by the Standards of Quality (§§ 22.1-253.13:1 et seq.). The annual accrediting cycle for public schools is July 1 through June 30.

This cover sheet, with the supporting documentation, must be submitted to the Department of Education for review and recommendation to the Board at least 90 days prior to the beginning of an accrediting cycle or the proposed implementation of the program or activity that precipitates the request for the waiver. The types of waivers available and the corresponding section of the standards are indicated below. Please attach additional sheets or information deemed appropriate. (The Board will consider this request in its monthly meeting and school divisions **are required** to appear before the board **in person or electronically** to explain a waiver request.)

SCHOOL DIVISION: Martinsville City Public Schools (116)

TITLE OF PROGRAM/ACTIVITY: MHC STEM Pipeline Initiative

TYPE OF APPROVAL REQUESTED:

- ☐ Approval of an Alternative to the Standard School Year and School Day (8 VAC 20-131-150)
- ☐ Approval of an Alternative Accreditation Plan (8 VAC 20-131-280.D)
- ☐ Approval of an Experimental Program (§ 22.1-79.1 of the *Code of Virginia* and 8 VAC 20-131-290.D)
- ☒ Approval of an Innovative Program (§ 22.1-79.1 of the *Code of Virginia* and 8 VAC 20-131-290.D)
- ☐ Approval of a Waiver of Other Provision(s) of the Standards (8 VAC 20-131-350) (Complete Pages 1 and 3 of the application only.)

SCHOOL OR SCHOOLS INVOLVED IN THE PROPOSED PROGRAM/ACTIVITY: Clearview Early Childhood Center, Albert Harris Elementary School, Patrick Henry Elementary School, Martinsville Middle School, Martinsville High School

January 13, 2014
Date Approved by the Local School Board

Robert A. Williams
Signature
Chairman of the School Board

January 31, 2014
Submission Date

Pamela V. Heath
Signature
Division Superintendent

SCHOOL DIVISION Martinsville City Public Schools (116)

TITLE OF PROGRAM/ACTIVITY MHC STEM Pipeline Initiative

IF THE PROPOSED PROGRAM IS EXPERIMENTAL OR INNOVATIVE, FOR EACH SCHOOL EXPLAIN HOW THIS IS SO AND PROVIDE A PROGRAM DESCRIPTION, INCLUDING THE TYPE OF PROGRAM, ITS PURPOSE, THE GRADES SERVED, DEMOGRAPHIC INFORMATION DESCRIBING THE STUDENTS WHO WILL BE ATTENDING, THE RATIONALE FOR THE PROGRAM, THE PROGRAM'S GOALS, EVALUATION PROCEDURES, AND OTHER RELEVANT INFORMATION.

Rationale for MHC STEM Pipeline Initiative

Martinsville City Public Schools (MCPS) is a small, rural school division consisting of Martinsville High School (9-12), Martinsville Middle School (6-8), Patrick Henry Elementary School (K-5), Albert Harris Elementary School (K-5), and Clearview Early Childhood Center (PK).

Of the 2,286 children enrolled in MCPS, 75% or 1,715 receive free or reduced price meals. Table 1 provides a breakdown by school of students receiving free and reduced lunch, and Table 2 provides a demographic breakdown of the student population. The median household income for Martinsville is $29,701 and $33,124 for Henry County. Based on the 2014-2016 re-benchmarking, the local composite index of .2221 for Martinsville City Public Schools ranks 132nd of 135 school divisions with Henry County's (.2407) ranking 128th. The most recent data shows Martinsville as having 27% of its residents living in poverty. In the past five years this percentage has steadily increased from 21% to the current 27%. Out of 134 localities, Martinsville ranks 130th in percentage of residents living in poverty, which is the fifth highest in the state (Annie E. Casey Foundation).

Table 1— Martinsville City Public Schools Students Participating in the Free-or-Reduced Lunch Program

School	% Students Receiving Free-or-Reduced Lunch
Clearview Early Childhood Center	96%
Albert Harris Elementary	96%
Patrick Henry Elementary	64%
Martinsville Middle School	75%
Martinsville High School	62%
Martinsville City Public Schools	75%

Table 2—Student Demographics for all Martinsville City Public Schools

Grade Band	Black	White	Hispanic	Asian	American Indian	Native Hawaiian/ Other Pacific Islander	2 or More Races	Total
PK	74%	16%	0%	2%	3%	5%	0%	100%
K-5	56%	30%	9%	1%	0%	0%	4%	100%
6-8	55%	31%	10%	2%	0%	0%	2%	100%
9-12	61%	29%	7%	1%	0%	0%	2%	100%
K-12	58%	29%	9%	1%	0%	0%	3%	100%

Since May 2007, Martinsville City has led the state in unemployment for all but two months (Virginia Employment Commission). As of November 2013 Martinsville City had an unemployment rate of 13.7% as compared to the state rate of 5%. Of those employed, our two largest industries are Services (education, healthcare, etc.) at 44.7% and Manufacturing at 22.4%. Within the Service area, Memorial Hospital of Martinsville and Henry County is the largest employer (Martinsville Henry County Economic Development Corporation). In light of these circumstances our community is in an economic crisis, thus economic development is a priority for Martinsville and Henry County with a particular focus on STEM-H workforce development.

The loss of furniture and textile manufacturing after the passage of NAFTA in 1994, sent Martinsville into an economic crisis from which it is slowly trying to recover. Martinsville and Henry County had been home to large manufacturers such as Tultex, DuPont, Sara Lee, Hooker Furniture, Stanley Furniture, Bassett Furniture, Bassett Mirror, Owens-Corning, American Standard Building Systems, and Pannill Knitting. An article from *The Washington Post* stated that, "In 1992, manufacturing employed an average of 14,792 workers in Henry County, home of Martinsville" (Sparshott, 2004). Of those, only Bassett Furniture, Bassett Mirror, Hooker Furniture, and Stanley Furniture still remain with manufacturing being scaled down to only employing 100-250 people per business. According to the Martinsville -Henry County Virginia Economic Development Report of October 2009, the area had suffered a loss of 9,360 manufacturing jobs and a total of 11,145 jobs from all sectors. To address this crisis The Harvest Foundation, a local charitable foundation dedicated to guiding community revitalization, provided funding to develop the Martinsville-Henry County Economic Development Corporation (EDC). The EDC has as its mission "to create new job opportunities and expand the tax base for the area; support and develop local industry; and market Martinsville-Henry County globally as an exceptional place to live, work and play." Through its work, EDC began attracting advanced manufacturing and technology industries to the area.

However, the attraction of industry has been just one piece of the solution to the economic crisis. As stated in the "State Council of Higher Education for Virginia Report on the Analysis of Education Demand in Southside Virginia and Recommendations for Action" (2006), the Martinsville Henry County region has been "beset by economic woes with the collapse of the area's textile, timber, and tobacco industries. For families previously participating in the manufacturing and agricultural sectors, a strong culture of college attendance does not exist, and educational attainment levels are comparatively low" (p. 4). Subsequent to this report, The Harvest Foundation pledged a $50 million matching grant towards the development of the New College Institute (NCI) in Martinsville.

As stated on the New College Institute's website, "Historically, the college-going rate in southern Virginia has been low. Chief among the factors contributing to the low rate of college attendance are financial and geographic barriers to pursuing post-secondary education in the region. The closest public four-year universities are more than two hours driving distance for most area residents. Responding to the loss of thousands of manufacturing jobs in the 1990s, local civic and political leaders identified the need for improved access to higher education and began to advocate for the establishment of a college in southern Virginia," thus the creation of the New College Institute. With the arrival of Senator William Wampler as the Executive Director of New College Institute in 2012, the institute began its focus on the development of educational programming addressing the needs identified by new industries and the EDC. Senator Wampler has explained that, "higher education and economic development go hand-in-hand" (Powell, 2012). In 2013 NCI received $8 million from The Harvest Foundation, $5 million from The Virginia Tobacco Indemnification and Community Revitalization Commission, and $500,000 from the Appalachian Regional Commission for a total of $13.5 million in funding, to build an extension of the NCI campus. The new building, which is a three-story, approximately 50,000-square-foot building, will have as its main purpose to house new programs that NCI is developing in advanced manufacturing, healthcare technology and entrepreneurism. Besides NCI's programs focused on STEM-H, this new facility will

house the Academy of Engineering and Technology(AET) program, Piedmont Regional Governor's School for Mathematics and Science as well as host school visits and summer enrichment programming for grades 4-8. NCI then partnered with Patrick Henry Community College to align and support programming between the four-year programs and the two-year programs, with the next link in the pipeline being K-12 education.

Starting in April 2012 MCPS leaders began working collaboratively with leaders from The Harvest Foundation, Patrick Henry Community College, New College Institute, Henry County Public Schools (HCPS), and the Economic Development Corporation to develop the "Transforming Community through Collaboration" Committee (TC2). Through the committee's work it has been determined that there are growing demands in the Martinsville/ Henry County area for employees in the areas of advanced manufacturing (engineering), information technology, and health care. To address this need, MCPS, HCPS, NCI, PHCC, The Harvest Foundation, and EDC have collaborated to develop the MHC-STEM Pipeline Initiative.

Program Goals

MCPS is committed to the economic turnaround of our community through education. As a part of this commitment to our students and community, MCPS has set the following goals as a part of the MHC STEM Pipeline Initiative:

- MCPS will provide informational and motivational programs and activities at PK-12 that will result in 100% of Martinsville High School students entering post-secondary education.
- MCPS will provide dual enrollment courses through Accelerated College Education (ACE), Academy of Engineering and Technology (AET), Robotics, Career Connections (C2) and Advanced Placement (AP) to support the educational needs for STEM-H fields as identified through TC2, industry DACUMs, and the i3 grant.
- MCPS will provide advanced math and science programming to support the educational needs for STEM-H fields as identified through the i3 grant and TC2.
- MCPS will provide career pathway programs that result in 100% of CTE completers earning industry certifications on the ACT Work Keys assessment.
- MCPS will develop and expand programming with NCI and PHCC to increase the number of students completing career pathways and earning industry credentials in STEM-H fields.
- MCPS will provide SEMAA programming at PK-12 that will result in an increase in student performance in math and science.
- MCPS will provide SEMAA/ robotics programming at PK-12 that will result in an increase of students pursuing STEM-H career pathways.
- MCPS will provide FIRST Robotics programming in grades 4-12 to increase students' critical thinking and problem solving skills thus improving math and science performance.

Program Description

In order to meet these goals MCPS has taken a three-pronged approach (see Table 3 for break-out of activities and outcomes by grade band), which involves continuation of programming that has been in place (such as dual enrollment and SEMAA), expansion of STEM-H programming (dual enrollment, CTE,and SEMAA), and development of innovative programming (AET, FIRST Robotics, internships):

- Develop partnerships with STEM-H corporations in the MHC region to increase student exposure to STEM career opportunities in the region.
  - Starting in 2012-2013, Eastman Chemical Corporation (one of the second largest manufacturing employers in the region) has provided an engineer as a mentor for the MHS robotics team and engineers to serve as judges for the middle school regional robotics competition.
  - Starting in 2012-2013 Mid-Atlantic Broadband Corporation has provided financial support for the high school robotics team.
  - Starting in 2012-2013 NCI and Commonwealth Laminating (one of third largest manufacturing employers in the area) have provided paid internship opportunities for students as a part of the Academy of Engineering and Technology.
  - Starting in 2012, RTI International has provided the opportunity for on-site visits with engineers for the middle school SEMAA classes during each rotation of the exploratory wheel.
  - Starting in 2012, Solid Stone Fabrics has provided opportunities for advanced art students to participate in on-site visits as well as participate in a graphic design challenge through which student teams develop a graphic design for a company project and present to the company president who then selects one design for production.
  - Memorial Hospital of Martinsville and Henry County and Kings Grant Retirement Community provide job shadowing and internship opportunities for students in the Health Occupation Services program at MHS.
- Develop shared instructional programs and expand existing programs with New College Institute (NCI), Patrick Henry Community College (PHCC), Virginia State University (VSU), and James Madison University (JMU) to support workforce development.
  - Develop the Accelerated College Education (ACE) program, which provides students the opportunity to earn an Associate's Degree through PHCC while earning their high school diploma at no cost to the student. MCPS was the first school division in Virginia to offer an Associate's Degree to high school students through our community college.
  - Partner with PHCC to provide dual enrollment credits and Associate's Degree availability for MCPS students in Piedmont Regional Governor's School for Math and Science.
  - Develop the Academy of Engineering and Technology (AET) program with NCI, VSU, and HCPS to provide students the opportunity to complete entry level engineering and technology courses, earn dual enrollment credit, earn industry certifications, and have the opportunity for paid internships in the area of advanced manufacturing industries.
  - Develop the C2 program with PHCC, which provides students the opportunity to complete career pathway courses for dual enrollment and earn industry certification on the ACT Work Keys National Career Readiness Certification.
  - Partner with the Dan River Regional Collaborative to fund opportunities for students to take the ACT Work Keys National Career Readiness Certification upon completion of career pathways.
  - Partner with JMU to provide dual enrollment for students taking FIRST Robotics in high school.
- Partner with other K-12 divisions and higher education institutions in grant programs to address the skills needed for STEM careers.
  - Partner with Virginia Advanced Study Strategies (VASS) and five other school divisions (Henry County, Charlotte County, Cumberland County, Halifax County, and Prince Edward County) in the

Rural Math Excel Partnership i3 grant funded by the US Department of Education, to develop the upper level math skills of students for success in STEM careers.

- Partner with Virginia Tech in a three-year educational app initiative research study to improve math performance at all middle school grade levels.
- Partner with James Madison University in the National Science Foundation's National Robotics Initiative research study, which focuses on the development and implementation of an integrative STEM curriculum that uses LEGO robotics to facilitate STEM learning in middle school Algebra I classes. The project outcomes are intended to have broader impacts: 1) provide a framework for the development of innovative and specialized robotics applications to STEM education; 2) provide empirical findings on the use of robotics to facilitate K-16 STEM learning; 3) provide empirical findings on the contribution of robotics on the engagement and persistence of students in STEM related areas (Project Summary from JMU/ NSF National Robotics Initiative Research Proposal).
- Partner with NASA and Virginia State University in the K-8 Science, Engineering, Mathematics Aerospace Academy (SEMAA). The NASA SEMAA Project at Martinsville Middle School is a math and science enrichment program that uses the unique resources of NASA to provide students with a better understanding of and greater appreciation for science, technology, engineering and mathematics, or STEM. SEMAA features the Aerospace Education Laboratory, an extraordinary, computer enhanced, learning environment that puts real aerospace hardware and software at the fingertips of middle school students. The Project uses proven curriculum enhancement activities provided by NASA and focuses on inquiry-based learning. It is one of only sixteen in the nation and the only one in Virginia. The NASA website (2014) reported the following:

  > The NASA SEMAA Project at Martinsville Middle School makes it possible for local 6th- through 8th-grade students to significantly improve their math and science literacy by conducting real-world experiments, and learning to gather, analyze, and apply information. The addition of both Patrick Henry Elementary and Albert Harris Elementary Schools has made it possible to give students in grades K-5 an early start on their STEM education. Participating elementary and middle school teachers are able incorporate the NASA SEMAA lessons directly into their science curriculums, thus supporting the district's mission to enhance teachers' focus on the Virginia Standards of Learning.

  Through a combination of the NASA SEMAA program and Title I, the division provides STEM summer enrichment camps in SEMAA and NASA Explorer for grades K-5 and robotics in grades 6-8.

- Development and expansion of the FIRST (For Inspiration and Recognition of Science and Technology) Robotics program in PK-12 to include introduction of robotics PK-3, Jr. First Lego League competitions in grades 4 and 5, and structured robotics classes in grades 9-12. This program is one of the recommended programs in the SCHEV "Report on the Analysis of Education Demand in Southside Virginia and Recommendations for Action" (2006) report, which stated, "FIRST is a 501 C3 global organization that connects classroom lessons and real-world applications and prepares students for profitable careers in science, technology, engineering, and business" (p.16). The report also stated that, "Additional programs should be developed in the Southside area to stimulate interest in math, science, and technology to promote enthusiasm for advanced education in these fields" (p.17). With the change in math standards and assessments, the division data is showing that the grades in which there is a structured robotics program have performed better on math assessments (Table 5).

Table 3 – Program Description and Outcomes

Program/ Educational Level	Program Description	Desired Outcomes
ENspire Grades PK-5 Clearview Early Childhood Center, Patrick Henry Elementary School, Albert Harris Elementary School	PK-5 Integration of Children's Engineering and SEMAA in math and science curriculum for project-based inquiry learning Grades 2-3 Introduction of Jr. First LEGO League Grades 4-5 Beginning of structured Jr. First Lego League Robotics competitions PK-5 Integration of LEGO robotics into math and science curriculum through partnership with Virginia Museum of Natural History. Jr. First Lego League parent nights to inform parents of the program and math/ science integration All students participate in STEM Mobile Learning Lab, which includes a program for students in the school day and a program for parents on Family Café nights. Family Café nights through SEMAA to increase parent awareness of STEM careers and STEM education. Summer Enrichment through SEMAA camp, robotics camp, and NASA Explorer camp Student site visits to PHCC Fabrication Lab and NCI/ AET program.	Developing critical thinking and problem solving skills while strengthening developing math and science skills through application in engineering challenges. Development of communication and collaboration skills. Improved student performance on SOL mathematics and science assessments. Increase student knowledge and interest in STEM disciplines. Increase parent and student awareness of post-secondary education opportunities and need for post-secondary education.

Program/ Educational Level	Program Description	Desired Outcomes
ENgage Grades 6-8 Martinsville Middle School	SEMAA exploratory class for grade 6 with robotics as unit of study in the class SEMAA elective course for grades 7-8 Robotics mentoring by engineers through VSU and Eastman Chemical Corporation Site visits to RTI to meet engineers and see engineering in action through exploratory wheel. Meet with RTI International's HR director to learn about career opportunities and skills/ education needed. Family Café nights through SEMAA to increase parent awareness of STEM careers and STEM education. Advanced math programming to increase the number of students entering high school having successfully completed Algebra I. Robotics integrated into Algebra I instruction through research partnership with JMU and National Science Foundation. Develop critical thinking and problem solving skills while reinforcing math skills through three-year research partnership with Virginia Tech. Development of community and parent awareness and support for student completion of higher-level math classes through i3 grant.	Continue developing critical thinking and problem solving skills while strengthening math and science skills through application in STEM inquiry-based/ project-based learning. Development of communication and collaboration skills. Improved student performance on SOL mathematics and science assessments. Increase the number of students receiving verified credits in Algebra I and Geometry in middle school. Increase student knowledge and interest in STEM disciplines. Increase parent and student awareness of post-secondary educational opportunities and need for post-secondary education. Increase the number of students earning Associate's Degrees while in high school in order to increase number of students seeking post-secondary education. Increase the STEM skilled workforce to meet the needs of current and future industry in MHC.

ENgage (continued) Grades 6-8 Martinsville Middle School	Integration of technology for academic support in higher level math classes through i3 grant. Student site visits to PHCC Fab Lab and NCI Academy of Engineering and Technology Grade 7 students on-site to PHCC for STEM Career Expo Integration of SEMAA curriculum in math and science. SEMAA exploratory class Site visits to RTI through exploratory wheel. Robotics mentoring by engineer through VSU and Eastman Chemical Corporation All students participate in STEM Mobile Learning Lab every nine weeks as a part of the exploratory wheel, which includes a program for students in the school day and a program for parents on Family Café nights. Grade 7 Students develop formal Academic Career Plan and update at least annually grades 8-12	

Program/ Educational Level	Program Description	Desired Outcomes
ENgineer **Grades 9-12** **Martinsville High School**	Grades 9-12 Explorations in Engineering classes which involve partnership, with PHCC and the Fabrication Lab Grade 11-12 Academy of Engineering and Technology through NCI and VSU 9on NCI campus with shared faculty from VSU, NCI, and MCPS) Paid internships for AET students in partnership with NCI and Commonwealth Laminating Grades 9-12 Robotics and programming classes as well as robotics competition team (supported by Mid-Atlantic Broadband Corporation) Grades 11-12 Dual enrollment credit from JMU for students in robotics Robotics mentoring by engineers through VSU and Eastman Chemical Corporation Technology class participation in the Virginia Coding Competition in partnership with VASS C2 – Dual enrollment/ industry credentialing program on campus at PHCC (Computer Automated Drafting and Drawing, Building Trades, Service Industry) Students take ACT Work Keys industry assessment through partnership with Dan River Collaborative Grades 9-12 Health Occupation Science Career pathway	Continue developing critical thinking and problem solving skills while strengthening developing math and science skills through application in STEM inquiry-based/ project-based learning. Development of communication and collaboration skills. Improved student performance on SOL mathematics and science assessments. Increasing the number of students receiving dual enrollment credit. Increase the number of students receiving verified credits in Algebra II. Increase student knowledge of and interest in STEM disciplines. Increase parent and student awareness of post-secondary educational opportunities and need for post-secondary education. Increase the number of students earning industry certifications and Associate's Degrees in order to increase number of students seeking post-secondary education and employment. Increase the STEM skilled

ENgineer (continued) **Grades 9-12** **Martinsville High School**	Certified Nurse Assistant (CNA) credentialing program with PHCC Job shadowing and internships at Memorial Hospital of MHC and Kings Grant Retirement Community Grades 11-12 Accelerated College (ACE) hybrid of on-site at PHCC and on-site at MHS Grades 11-12 Piedmont Regional Governor's School for Math and Science, which includes a robotics team Development of community and parent awareness and support for student completion of higher-level math classes through i3 grant. Integration of technology for academic support in higher-level math classes through i3 grant. Site visits in fall semester at PHCC for regional STEM day to teach students about opportunities and educational requirements in STEM careers (collaborative through Harvest Foundation, PHCC, NCI, MCPS, HCPS) Grades 11-12 AP/ Dual enrollment courses in all core subjects in partnership with PHCC Computer Graphic Design Challenge for advanced art students in partnership with Solid Stone Fabrics.	workforce to meet the needs of current and future industry in MHC.

It is through all of these efforts that MCPS has been partnering in the MHC STEM Pipeline Initiative to create the skilled workforce to not only meet the current needs of area businesses but attract other STEM industries to our area, thus creating more employment opportunities in our community.

Intended Outcomes by School

The MHC STEM Pipeline Initiative is an innovative program with research-based, positive student outcomes at each program level that will also have short-term and long-term positive economic outcomes for our community.

For Clearview Early Childhood Center, the anticipated outcome is an increase in the students' number sense upon entering kindergarten. This is an identified outcome, for kindergarten numeracy skills are a leading indicator for a student's successful completion of Algebra I and high school graduation. The "Compiled research on student math proficiency and future achievement" (2012) Sorbel reported the following:

> *The consequences of poor mathematics achievement are serious for everyday functioning, educational attainment, and career advancement. Mathematics competence is necessary for entry into STEM (science, technology, engineering and mathematics) disciplines in college and for STEM occupations. There are large group differences in mathematics achievement related to socioeconomic status as well as individual differences in fundamental learning abilities. These differences are already present in early childhood and increase over the course of schooling (p.4).*

Sorbel (2012) further stated that, "Low-income children enter kindergarten well behind their middle-income peers on numeracy indicators, and this gap does not narrow during the course of the school year" (p. 4). With the free and reduced lunch rates at Clearview at 96%, Albert Harris Elementary at 96%, and Patrick Henry Elementary at 64%; the math achievement gap as related to socioeconomic status is of particular concern.

For Albert Harris Elementary and Patrick Henry Elementary Schools the expected outcomes are the development of critical thinking and problem solving skills while strengthening math and science skills through application in STEM inquiry-based/ project-based learning, improved student performance on SOL mathematics and science assessments, increased student knowledge and interest in STEM disciplines, and increased parent and student awareness of post-secondary education opportunities and need for post-secondary education. An additional outcome will be the development of student communication and collaboration skills.

For Martinsville Middle School the expected outcomes are to continue developing critical thinking and problem solving skills as well as communication and collaboration skills. In terms of student perfromance, the outcomes are to improve student performance on SOL mathematics assessments as well as increase the number of students receiving verified credits in Algebra I and geometry in middle school, which is an outcome with far reaching implications for middle school students. Musen (2010) stated the following in a report for The Annenberg Institute:

> *Because the trajectory for taking advanced high school coursework is set prior to ninth grade, it is imperative that students begin their academic preparation for advanced mathematics and science coursework in middle school. The middle school years are when students decide which academic path they will take (p. 2).*

This research ties into another outcome, which is to increase the number of students earning Associate's Degrees while in high school in order to increase the number of students seeking post-secondary education. Though this may not at first appear to be a middle school outcome, Musen

(2010) identified enrollment in pre-algebra and algebra, courses often taken at the middle school level, as an indicator of college readiness and job-readiness status upon graduation (2). Other outcomes for Martinsville Middle School include increasing student knowledge and interest in STEM disciplines as well as increasing parent and student awareness of post-secondary educational opportunities and the need for post-secondary education.

In addition to the outcomes related to increasing the number of students earning Associate's Degrees while in high school, developing critical thinking and problem solving skills as well as communication and collaboration skills, and improving student performance on SOL mathematics and science assessments; expected outcomes for Martinsville High School include increasing the number of students receiving verified credit in Algebra II. The Annenberg Institute report pointed out that, "Success in Algebra II in high school is linked to both college enrollment and bachelor's degree attainment. Currently, many four-year institutions of higher education require students to have completed Algebra II to be eligible for admissions" (p. 2). As a result of increasing the number of students earning Associate's Degrees and verified credits in Algebra II, an additional outcome for Martinsville High School will be to increase the percentage of students planning for two-year and four-year college with a reduction of students with no plans for continuing education (see Table 4).

Table 4 – Continuing Education Plans as reported in MCPS 2013-2013 Report of Term Graduates

Continuing Education Plans of Graduates	Percentage
4 year college	54%
2 year college	18%
Other Educational Plans (trade school, etc.)	11%
Military	4%
Employment	5%
None	8%

While 54% of MCPS graduates plan on attending four-year college and 18% plan on two-year programs, one of the goals is to have 0% of students in the "None" category and an increase in both four and two-year categories. Research has shown the overlap in college and career readiness skills (Conley & McGaughy, 2012) in the areas of speaking, listening, reading informational texts, and writing; in fact, the research stated that, "The standards for mathematical practices, which include reasoning and problem solving, were the most highly rated across all subject areas in both academic and career-oriented courses." In line with this research, an outcome for MHS is that those students pursuing employment will also pursue post-secondary education.

Rationale for Grades 4-12 Robotics Supporting these Outcomes

The expansion of the robotics program into the elementary and developing robotics into a more structured instruction program at the high school level is to address two areas of concern 1) improving students' performance in math and 2) developing students' critical thinking, problem-solving, communication, and collaboration skills. All of these are skills that have been identified as priorities by area employers and all are strengthened through FIRST Robotics programs.

Base Line Data

Table 5 -- SOL Math Trend Data

Grade Band	2011-2012	2012-2013 *	2013-2014
Patrick Henry	95	74	70
Albert Harris	85	49	43
Martinsville Middle School	86	70	71
Martinsville High School	79	46	50

*First year of new SOL Mathematics assessments

As shown in Table 5, Martinsville Middle School, the only school in which we have had a structured SEMAA/ robotics program, has seen less of a drop in student performance on new SOL Mathematics assessments than other schools in the division. The impact of robotics in math is that it focuses on project-based application of math and science skills, which develops critical thinking and problem solving as well as creates a context for the skills and concepts. In addition, Albert Harris Elementary has been placed under Priority status for reading and math and, as a result, has the requirement of increasing learning time in those areas.

Research Base

In addition to the data from MCPS, there is a body of research available supporting the positive impact of integrated robotics on math performance and student college and career readiness. In the research study entitled, "Robotics as Means to Increase Achievement Scores in an Informal Learning Environment," Bradley Barker and Ansorge (2007) found the following:

> The results of the study based on the increase of mean scores from the pretest to the posttest for the experimental group indicate the robotics was effective at teaching youth about SET concepts like computer programming, robotics, mathematics, and engineering. The overall effect size for the intervention was calculated at .943, which indicates a large effect from the robotics program. The overall percent change from the control group (M = 7.44, SD = 2.98) to the 4-H robotics group (M = 17.00, SD = .88) was 128%. Moreover, there was no significant difference between the control groups pretest and posttest scores, while the robotics group had a significant increase from the pretest (M = 7.93, SD= 3.71) to the posttest (M = 17.00, SD = .88) $t(14) = 8.95$, $p < .000$. The mean difference was 9.07 between the pretest and the posttest for the robotics group. (p. 9)

In a research report on the impact of robotics programs on student skills in STEM, problem solving and teamwork, Ebelt (2012) found 84% of the students showing improvement on the MAP assessment. Also, in terms of problem solving skills Ebelt (2012) found the following results:

> In the pre-robotics season forty percent of the students said they would stick with a problem until solved. Thirty-two percent answered they would ask for help only after two or three failures. Twenty–one percent answered they would quit right away if they didn't get the answer. In the post robotics season 79% percent of the robotics participants answered they would stick with a problem until solved. Eighteen percent would ask for help only after two or three failures. No students answered they would quit in the post season. (p. 14)

In terms of the goals related to economic development for the Martinsville-Henry County area and the focus on STEM-H skills development, the research report by Melchior, Cohen, Cutter, and Leavitt (2005) found the following results:

> Nearly 90% of the First Robotics Competition (FRC) alumni in the study attended college, a rate substantially above the national average, and the higher than average college-going rates were evident for women and minorities in the program as well as for the sample as a whole. Once at college, FRC students were also much more likely than non-participants to pursue courses and careers in science and technology-related fields. One of the most striking findings from the study is the fact that 41% of the team members who responded listed Engineering as their primary major – a figure nearly seven times the national average. (p. 57)

In the conclusion the Melchior, Cohen, Cutter, and Leavitt (2005) stated the following:

> Based on the data from the FRC survey, FIRST also had a wide range of additional impacts on participant attitudes, knowledge and skills. In assessing the program's impact on themselves, FRC participants pointed to an increased interest in science and technology, a positive sense of belonging and increased self-confidence, and the acquisition of a variety of practical problem solving, planning, and communications skills. For most of those involved in the program, FIRST was one of the most important influences on their lives in high school, and the data suggest that the influence of the program continued in the post-high school years. Taken together, the participant self-assessments and the post-program outcomes data make a strong case that FIRST did have the kinds of education, career, and developmental impacts that the program had intended. (p. 57)

In reviewing the research base supporting the impact of FIRST Robotics on STEM skills development as well as the development of college and career readiness along with the local student performance data in math, MCPS has a data-supported expectation for this innovative program's success.

Evaluation of the MHC STEM Pipeline Initiative

Baseline data for the program will be based on the 2013-2014 data as collected in the VDOE End of Year report, Term Graduate Report, and School Report Card Data as well as data from grant research programs. These same data sources will be used to determine impact on student learning outcomes as well as community workforce development. Table 6 identifies evaluation data as well as evidence to be used at each stage of the program.

Table 6 – Evaluation by Program Band

Grade Band/ Program	Evaluation Data	Evidence
ENspire PK-5	Grades 3-5 Percentage of students earning proficient score on math SOL tests Grades 3-5 Percentage of students earning advanced score on math SOL tests Grades 3-5 Percentage of students earning proficient score on science SOL tests Grades 3-5 Percentage of students earning advanced score on science SOL tests K-2 Numeracy skill levels	School Report Card Grades 4-5 Student performance growth measures Grade 5 ARDT data Grades K-4 iReady Math
	Parent/ Student surveys related to STEM education	SEMAA and Jr. First Robotics Family Café participation

		TC2 Parent and Student Surveys
ENgage Grades 6-8	Percentage of students earning proficient score on math SOL tests Percentage of students earning advanced score on math SOL tests Percentage of students earning proficient score on science SOL tests Percentage of students earning advanced score on science SOL tests Grades7-8 Percentage of students earning verified credit in Algebra I, Geometry, Algebra II	School Report Card Research data through VT, i3, and JMU Algebra readiness Diagnostic Test (ARDT) data
	Parent/ Student Surveys related to STEM opportunities and education	SEMAA surveys Family Café participation TC2 Parent and Student Surveys
	Students planning to enter post-secondary education/ employment	Academic Career Plans
ENgineer Grades 9-12	Percentage of students earning verified credit on EOC math and science SOL assessments Percentage of student	VDOE End-of Year Record Collection School Report Card VDOE CTE report

	receiving qualifying scores on AP exams Percentage of students earning dual enrollment credit Number of students earning industry credentials Number of students as CTE completers Percentage of students entering post-secondary education Percentage of students pursuing STEM-H careers	Academic Career Plans College acceptance rates SAT scores math

DOES THE PROGRAM REQUIRE THE SCHOOL OR SCHOOLS REFERENCED IN THIS APPLICATION TO OPEN PRIOR TO LABOR DAY?
☒ YES ☐ NO.

IF YES, EXPLAIN WHY.

Opening prior to Labor Day in order to align with college schedules is essential in maintaining dual enrollment course offerings and STEM Pipeline activities at all levels of schooling. Through collaboration with PHCC, NCI, and VSU, MCPS has a very successful dual enrollment program. Because the dual enrollment programs (AET, ACE, C2, Piedmont Regional Governor's School) involve shared faculty and on-site courses from PHCC, NCI, and VSU it is imperative for the high school academic year to closely align with the colleges and HCPS academic year schedules. Not only does a pre-Labor Day opening closely align with the post-secondary schedules of PHCC, NCI, and VSU, it allows Fall End-of-Course SOL testing to be concluded prior to the winter break. The need for remediation and review after an extended break is eliminated. This calendar has received positive support from all stakeholders.

With limited funding and resources of many of our families, the dual enrollment option is a great economic benefit to our students and to our workforce development efforts. As the result of ongoing collaboration with PHCC and NCI, dual enrollment classes for AP, ACE, AET, and C2 are offered free of charge to students. Also, the ACT Work Keys industry certification assessments in the C2 program are provided through PHCC and free of charge to the students. This provides opportunities for post-secondary education and industry certifications to students who otherwise could not afford it. Aligning the school calendar with our partner institutions is critical in continuing this opportunity.

At the middle and elementary levels, this alignment of schedules is also crucial for continuation of the MHC STEM Pipeline Initiative. Starting after Labor Day would cause one quarter of our middle school students to be denied equal access to our expanded K-8 Science, Engineering, and Math Aerospace Academy in partnership with VSU due to the 9-week rotation schedule of the middle school exploratory wheel. It would also push the end of the school year in to June and limit the access to

college facilities and faculty and limit summer programs. Also, many of the campus visits and experiences need to be scheduled prior to the PHCC and NCI personnel beginning classes in late August and must be completed prior to the end of the college calendars. Therefore, the STEM Pipeline Initiative activities must be scheduled in mid-August, with follow-up site visits to college campuses scheduled later in the school year.

For the innovative PK-12 robotics program and the grades 4-12 FIRST Robotics Competition (FRC), a start date prior to Labor Day is essential. The start date for competition season preparation, which is set by the international FIRST organization, is in August with competitions in November. It is during this time that students learn the skills of critical thinking, problem solving, communication, and collaboration; those skills identified as essential for college and career readiness. Starting after Labor Day limits the amount of instructional time students will spend developing these skills, thus limiting the research-based positive outcomes of FIRST Robotics. This issue would be compounded by the achievement gap already in existence for many of our students in poverty (75% at the division level, 96% at Clearview Early Childhood Center, 96% at Albert Harris, 64% at Patrick Henry, 75% Martinsville Middle School, and 62% Martinsville High School). As the math performance data is showing that this program has a positive impact on student performance in math, then all students should have equal access to this curriculum. The only way to ensure equal access is to have this program as part of the regular school day.

Opening prior to Labor Day in order to align with college schedules is essential in maintaining dual enrollment course offerings and STEM Pipeline activities at all levels of schooling. MCPS can only afford to maintain single bus routes to transport students (PK-12) to elementary, middle, and high schools. It is not financially feasible to run separate calendars for our various schools. Not only are separate schedules not financially feasible for MCPS, but also operating separate calendars for our various schools would have a negative impact on families in our community. Many working families rely on older siblings for supervising younger students during the summer break and before/after school when it is in session. Many parents simply cannot afford to pay for childcare, and missing work because an older sibling is unavailable to supervise may cost a parent his or her job. Having the highest unemployment rate in the state means that finding another job may not be an option.

The MHC STEM Initiative is an innovative program that is essential for the development of a highly skilled STEM-H workforce and the economic turn-around of our community. As Mark Heath, President/ CEO of Martinsville-Henry County Economic Development Corporation, stated, “A lot is riding on the success of the New College Institute’s Academy for Engineering and Technology,” which is but one component of the MHC STEM Initiative (Martinsville Bulleting staff, 2013). This initiative has grown out of a community partnership of PK-16 education, business, and civic leaders working together to revitalize their community through investment in the education of their children. For this initiative to continue, it is essential that the alignment and leveraging of limited resources continue; and the only way for this to occur is though the alignment of our calendars.

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IF THE PROGRAM IS EXPERIMENTAL, FOR THE SCHOOL OR SCHOOLS REFERENCED IN THIS APPLICATION INCLUDE INFORMATION THAT EXPLAINS WHY THERE IS REASON TO EXPECT THAT THE PROGRAM WILL BE SUCCESSFUL.

DESCRIBE THE ANTICIPATED OUTCOMES OF THE PROGRAM FOR EACH SCHOOL.

SCHOOL DIVISION _____

TITLE OF PROGRAM/ACTIVITY _____

IF YOU ARE SEEKING A WAIVER OF A PROVISION OR PROVISIONS OF THE ACCREDITING STANDARDS, STATE THE PROVISION AND THE RATIONALE FOR SEEKING A WAIVER FOR EACH.

DESCRIBE THE PROCEDURES THAT WILL BE USED TO EVALUATE THE EFFECTIVENESS OF THE WAIVER/PROGRAM/ACTIVITY. (Include information that includes measurable goals, objectives, and student academic achievement that will be expected as a result of the implementation of the program/activity.)

Number of students involved in the program _____

What is the anticipated length of the program or duration of the waiver? _____

Questions should be directed to the Division of Policy and Communications at (804) 225-2092, or by e-mail to policydata@doe.virginia.gov. This application and supporting documentation must be sent to:

Division of Policy and Communications
Department of Education
P. O. Box 2120
Richmond, VA 23218-2120

MARTINSVILLE
HENRY COUNTY VIRGINIA
Economic Development Corporation

January 29, 2014

Dr. Patricia I. Wright
Superintendent of Public Instruction
Virginia Department of Education
P.O. Box 2120
Richmond, Virginia 23218-2120

Dear Dr. Wright:

The Martinsville-Henry County Economic Development Corporation (EDC) supports the MHC STEM Pipeline Initiative. This program will allow our region's Pre-K – 16 education institutions to continue and expand upon a regional effort to develop a highly skilled workforce pipeline in our area.

For nearly two years, the EDC has been working directly with the Martinsville City and Henry County School divisions on workforce development in partnership with the New College Institute (NCI) and Patrick Henry Community College (PHCC). Based on feedback from current employers and workforce trends, we have identified in-demand skill sets. NCI has already established a high-school dual enrollment Academy for Engineering and Technology in which students earn college credit from PHCC and Virginia State University. The EDC works with local industries to then place these students into paid internships. Through this unique collaboration of business and education partners, we have established the real beginnings of a STEM workforce pipeline that will support businesses in advanced manufacturing and other STEM-related fields.

But our joint efforts must continue to expand if we are to truly build the necessary capacity within our regional workforce. The current median household income in Martinsville-Henry County combined is $32,349. The November 2013 unemployment rates in Martinsville and Henry County of 13.7% and 7.9 %, respectively, remained well above the 5.0% statewide rate.

Education is the cornerstone to economic development in this region, and we strongly support career development activities in the STEM areas beginning as early as elementary school. Both school divisions have begun such activities at the elementary and middle school levels, but they will need to leverage the staff and resources of our higher education partners in order to grow and strengthen the workforce pipeline our community desperately needs. This can only be accomplished if schools are allowed to operate on an academic calendar closely aligned with our college and university partners.

134 East Church Street, Suite 200 P.O. Box 631, Martinsville, Virginia 24114
276.403.5940 Fax 276.403.5941 www.YesMartinsville.com

The EDC strongly supports the MHC STEM Pipeline Initiative, as it will enhance our opportunities to return this community to economic prosperity through the development of a highly skilled workforce.

Sincerely,

Mark Heath
President/CEO

134 East Church Street, Suite 200 P.O. Box 631, Martinsville, Virginia 24114
276.403.5940 Fax 276.403.5941 www.YesMartinsville.com

January 24, 2014

Dr. Patricia I. Wright
Superintendent of Public Instruction
Virginia Department of Education
P. O. Box 2120
Richmond, VA 23218-2120

Dear Dr. Wright:

I write to support the Martinsville City Public School system's request to begin the academic year before Labor Day.

New College Institute works closely with our local school systems to enhance current academic offerings and to provide dual enrollment programs through our partner universities. Nearly all the university level academic programs begin prior to Labor Day, and by delaying the first day of school, students miss out on valuable instructional hours. Additionally, because the universities begin a winter holiday break several weeks prior to the K-12 holiday break, there is loss of instructional hours.

In particular, the programs that are affected by delaying the start of the school year are the Academy for Engineering and Technology with Virginia State University (high school juniors and seniors) and the SEMAA exploration program partnership with Virginia State University (middle school students).

The aforementioned programs are currently unique to our community. They are innovative and create significant opportunities to explore engineering, technology and science for many students. Our university partner, VSU, is committed to our students and understands the significant academic benefit K-12 students experience when a connection is made with higher education. Additionally, these programs target essential skills that our regional employers have indicated they need. I would be remiss if I did not mention that our growing industries are allowing the middle and high school students to tour and even obtain internship experiences because of the academic partnerships that are in place. Students see, firsthand, the good jobs that are available if they take appropriate, rigorous coursework.

Building on proven track records of each of these programs, we are growing and expanding them next year. Allowing the schools to begin prior to Labor Day is a critical factor in aligning our university faculty with the K-12 timeline.

Thank you in advance for your consideration of this important issue.

Best regards,

William C. Wampler Jr.

William C. Wampler, Jr.
Executive Director

29 Jones Street Martinsville, Virginia 24112 • 276.403.5600
www.newcollegeinstitute.org

Patrick Henry Community College

Office of the President

January 31, 2014

Dr. Patricia L. Wright
Superintendent of Public Instruction
Virginia Department of Education
P.O. Box 2120
Richmond, VA 23218-2120

Dear Dr. Wright:

Henry County and Martinsville Public Schools are currently pursuing a STEM Pipeline Initiative, through which students at the elementary, middle and high school level will be exposed to and engaged in STEM-related activities and courses early in their academic career. If students are more aware of academic and career opportunities in STEM fields, they can become better prepared academically after high school graduation.

Patrick Henry Community College (PHCC) currently offers dual enrollment classes in the Martinsville and Henry County high schools, as well as campus visits and special activities, such as our annual STEM Day, to help students learn about potential career pathways. In order to better align faculty and programming with this initiative, it would be very helpful for the academic schedules of the public schools to be more closely aligned with that of the College.

PHCC supports the Henry County/Martinsville STEM Pipeline Project and looks forward to working with the faculty and students in our area in STEM-related activities.

Sincerely,

Angeline D. Godwin

Angeline D. Godwin, Ph.D., J.D.
President, Patrick Henry Community College

Phone: (276) 656-0201 FAX: (276) 656-0300 e-mail: agodwin@patrickhenry.edu
645 Patriot Avenue, Martinsville, VA 24112 www.patrickhenry.edu

the **harvest** foundation

January 30, 2014

Dr. Patricia I. Wright
Superintendent of Public Instruction
Virginia Department of Education
P. O. Box 2120
Richmond, VA 23218-2120

Dear Dr. Wright:

The Harvest Foundation supports the MHC STEM Pipeline Initiative. This program will allow our region's Pre K-16 education institutions to continue and expand upon a regional effort to develop a highly skilled workforce pipeline in our area.

The Harvest Foundation has been working directly with the Martinsville City and Henry County School divisions on workforce development in partnership with the New College Institute (NCI) and Patrick Henry Community College (PHCC). Based on feedback from current employers and workforce trends, we have identified in-demand skill sets. NCI has already established a high school dual enrollment Academy for Engineering and Technology in which students earn college credit from PHCC and Virginia State University. Local industries then place these students into paid internships. Through this unique collaboration of business and education partners, we have established the real beginnings of a STEM workforce pipeline that will support businesses in advanced manufacturing and other STEM-related fields.

Our joint efforts must continue to expand if we are to truly build the necessary capacity within our regional workforce. Education is the cornerstone to economic development in this region, and we strongly support career development activities in the STEM areas beginning as early as elementary school. Both school divisions have begun such activities at the elementary and middle school levels, but they will need to leverage the staff and resources of our higher education partners in order to grow and strengthen the workforce pipeline our community desperately needs. This can only be accomplished if schools are allowed to operate on an academic calendar closely aligned with our college and university partners.

fostered by the spirit of the people

1 ellsworth st., po box 5183 martinsville, virginia 24115 tel 276.632.3329 fax 276.632.1878 www.theharvestfoundation.org

The Harvest Foundation strongly supports the MHC STEM Pipeline Initiative, as it will enhance our opportunities to return this community to economic prosperity through the development of a highly skilled workforce.

Sincerely,

Allyson K. Rothrock

Allyson K. Rothrock
President

Nick Swayne
Executive Director
Virginia-DC *FIRST* LEGO League
James Madison University
800 S. Main, MSC 6911
Harrisonburg, VA 22807

January 24, 2014

Subject: Impact on Student Performance on STEM Programs

To Whom It May Concern,

Each year 4-6 teams of elementary and middle school students (40-60 children) from Martinsville City Schools participates in an engaging, challenging, and time consuming international STEM/robotics program called FIRST LEGO League. The value of this particular program is evident – participation in FIRST programs is now a leading indicator of Virginia Innovation and Entrepreneurship; indicating the strength of our STEM pipeline (see the report at: http://www.cit.org/initiatives/iems/talent-pipeline).

The start-date for competition season, set by the international FIRST organization, is the last Friday in August – this year's competition season will start on August 29th. Most teams are school-based, particularly in rural and urban areas. As in any other competitive program, high performing teams need to be organized, trained, and functioning before the real season starts – this is particularly true for competitive STEM programs. Like football, robotics teams need to form and practice at least 2 weeks before the season. Rural and urban teams rely on the school-based system to function; transportation, staff, facilities, computers, etc.

Any school that opens after August 22nd is distinctly disadvantaged – particularly rural schools where access to experts, facilities, transportation and technology is limited.

Please feel free to contact me at (540) 568-6093 or swaynedd@jmu.edu if you have any questions.

Dominic "Nick" Swayne

SENATE OF VIRGINIA

WILLIAM M. STANLEY
20TH SENATORIAL DISTRICT
ALL OF HENRY AND PATRICK COUNTIES; ALL OF THE
CITIES OF GALAX AND MARTINSVILLE; PART OF CARROLL,
FRANKLIN, HALIFAX, AND PITTSYLVANIA COUNTIES;
AND PART OF THE CITY OF DANVILLE
13508 BOOKER T. WASHINGTON HIGHWAY
MONETA, VIRGINIA 24121

COMMITTEE ASSIGNMENTS:
AGRICULTURE, CONSERVATION AND
NATURAL RESOURCES
COMMERCE AND LABOR
COURTS OF JUSTICE
LOCAL GOVERNMENT

January 29, 2014

Dr. Patricia I. Wright
Superintendent of Public Instruction
Virginia Department of Education
P.O. Box 2120
Richmond, Virginia 23218-2120

Dear Dr. Wright:

Since taking office two years ago, I have been a strong advocate and active supporter of the STEM (Science, Technology, Engineering, and Math) programs throughout the state and in particular the *Martinsville-Henry County STEM Pipeline Initiative*. I remain firmly convinced that the path to sustained economic growth and stability within the region, including Martinsville City and Henry County, will only be achieved with a well-educated workforce aligned with the needs of the modern workplace. And since its inception, the Martinsville/Henry County (MHC) STEM program has consistently exceeded expectations and is fully deserving of the support necessary to execute on their programs in a timely and efficient manner.

It is important to point out that the annual start date of the school year for STEM programs in both the Martinsville City and Henry County school systems be aligned with the start date of partnering schools of Patrick Henry Community College (PHCC), New College Institute (NCI) and the Piedmont Governor's School. In doing so, we can optimize the overall effectiveness of the STEM programs by making it easier for students and administrators to schedule and implement various STEM programs. Currently however, there exists a difference in the start dates for both STEM group programs. This can be easily rectified by the Virginia Department of Education.

Accordingly, I fully agree with the request from the MHC school systems for a waiver of Labor Day opening requirements and encourage the Virginia State Board of Education to approve the request commensurate with the start of the 2014/1015 school calendar.

Historically, the Henry County School Division has received waivers to start school before Labor Day based on the number of school closings due to inclement weather conditions. However, due to milder winters that in the past have caused school closings, there is no guarantee that future waivers to begin school before Labor Day would be granted. Consequently, this creates a

RICHMOND: (804) 698-7520 • DISTRICT OFFICE: (540) 721-6028 • EMAIL: DISTRICT20@SENATE.VIRGINIA.GOV

scheduling dilemma that keeps STEM programs out of sync. This adversely affects the collaboration between the MHC school systems with the regional undergrad programs being offered by PHCC, NCI and the Governor's School.

Unemployment rates in Martinsville City and Henry County remain at all-time highs relative to the state average. Efforts to attract and retain new jobs in the region are based on the assumption that the available workforce possesses the requisite skills to perform the functions required in today's manufacturing and office environments. There is a successful track record of STEM initiatives that continue to grow each year. Let's ensure this trend continues indefinitely.

I urge the Virginia Department of Education to approve the waiver request for Labor Day Opening. I am concerned that should the VDOE not act favorably on this request, segments of the STEM program could very well be in jeopardy. Please feel free to contact me should additional information be required.

Thank you.

William M. Stanley, Jr
Senate of Virginia
20th Senatorial District

LOCAL COMPOSITE INDEX RANKING

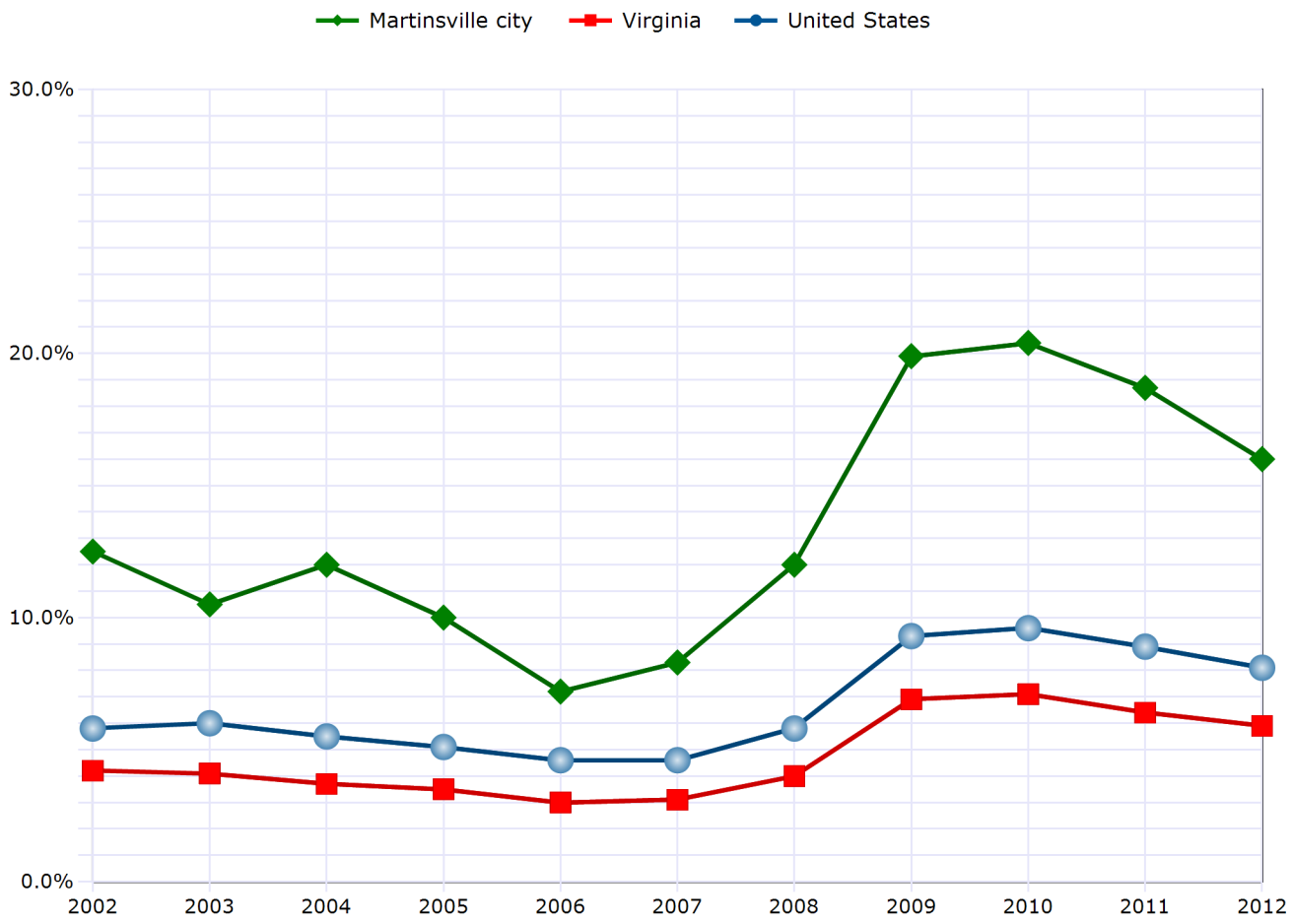
135	103	BUENA VISTA	.1756
134	052	LEE	.1885
133	084	SCOTT	.1939
132	116	MARTINSVILLE	.2221
131	086	SMYTH	.2251
130	040	GREENSVILLE	.2258
129	114	HOPEWELL	.2298
128	044	HENRY	.2407
127	003	ALLEGHANY	.2423
126	074	PRINCE GEORGE	.2429
125	120	PETERSBURG	.2473
124	067	NOTTOWAY	.2477
123	083	RUSSELL	.2485
122	138	EMPORIA	.2495
121	055	LUNENBURG	.2501
120	071	PITTSYLVANIA	.2507
119	096	WISE	.2538
118	020	CHARLOTTE	.2579
117	207	WEST POINT	.2580
116	108	DANVILLE	.2649
115	122	RADFORD	.2674
114	121	PORTSMOUTH	.2677
113	144	MANASSAS PARK	.2682
112	018	CARROLL	.2695
111	026	DICKENSON	.2709
110	070	PATRICK	.2725
109	111	GALAX	.2737
108	092	TAZEWELL	.2754
107	016	CAMPBELL	.2759
106	025	CUMBERLAND	.2780
105	107	COVINGTON	.2817
104	035	GILES	.2866
103	087	SOUTHAMPTON	.2876
102	027	DINWIDDIE	.2881
101	117	NEWPORT NEWS	.2907
100	112	HAMPTON	.2949
99	135	FRANKLIN CITY	.2977
98	013	BRUNSWICK	.2984
97	069	PAGE	.2984
96	041	HALIFAX	.3010
95	005	AMHERST	.3079
94	006	APPOMATTOX	.3079
93	102	BRISTOL	.3085
92	119	NORTON	.3101
91	077	PULASKI	.3111
90	118	NORFOLK	.3122
89	010	BEDFORD COUNTY	.3132

88	023	CRAIG	.3155
87	097	WYTHE	.3182
86	050	KING WILLIAM	.3195
85	011	BLAND	.3252
84	017	CAROLINE	.3272
83	073	PRINCE EDWARD	.3272
82	004	AMELIA	.3308
81	015	BUCKINGHAM	.3346
80	089	STAFFORD	.3411
79	024	CULPEPER	.3444
78	038	GRAYSON	.3459
77	031	FLOYD	.3468
76	127	SUFFOLK	.3489
75	130	WAYNESBORO	.3492
74	021	CHESTERFIELD	.3495
73	202	COLONIAL BEACH	.3519
72	008	AUGUSTA	.3543
71	001	ACCOMACK	.3553
70	088	SPOTSYLVANIA	.3554
69	039	GREENE	.3566
68	014	BUCHANAN	.3570
67	079	RICHMOND COUNTY	.3581
66	091	SUSSEX	.3583
65	124	ROANOKE CITY	.3591
64	058	MECKLENBURG	.3608
63	136	CHESAPEAKE	.3609
62	068	ORANGE	.3617
61	085	SHENANDOAH	.3651
60	036	GLOUCESTER	.3659
59	143	MANASSAS	.3661
58	115	LYNCHBURG	.3679
57	139	SALEM	.3695
56	082	ROCKINGHAM	.3700
55	080	ROANOKE COUNTY	.3703
54	012	BOTETOURT	.3718
53	034	FREDERICK	.3718
52	048	KING GEORGE	.3772
51	094	WASHINGTON	.3812
50	075	PRINCE WILLIAM	.3821
49	032	FLUVANNA	.3834
48	060	MONTGOMERY	.3864
47	093	WARREN	.3870
46	142	POQUOSON	.3893
45	072	POWHATAN	.3912
44	126	STAUNTON	.3922
43	113	HARRISONBURG	.4008
42	028	ESSEX	.4021

41	098	YORK	.4024
40	128	VIRGINIA BEACH	.4033
39	043	HENRICO	.4058
38	042	HANOVER	.4069
37	033	FRANKLIN COUNTY	.4136
36	046	ISLE OF WIGHT	.4193
35	063	NEW KENT	.4296
34	106	COLONIAL HEIGHTS	.4322
33	049	KING AND QUEEN	.4336
32	132	WINCHESTER	.4374
31	019	CHARLES CITY	.4431
30	056	MADISON	.4469
29	137	LEXINGTON	.4508
28	095	WESTMORELAND	.4631
27	123	RICHMOND CITY	.4635
26	081	ROCKBRIDGE	.4739
25	065	NORTHAMPTON	.4838
24	022	CLARKE	.5151
23	057	MATHEWS	.5435
22	030	FAUQUIER	.5584
21	053	LOUDOUN	.5616
20	047	JAMES CITY	.5629
19	054	LOUISA	.5642
18	062	NELSON	.5686
17	110	FREDERICKSBURG	.6134
16	002	ALBEMARLE	.6504
15	104	CHARLOTTESVILLE	.6680
14	029	FAIRFAX COUNTY	.6804
13	066	NORTHUMBERLAND	.7428
12	059	MIDDLESEX	.7445
11	051	LANCASTER	.7789
10	078	RAPPAHANNOCK	.7912
9	007	ARLINGTON	.8000
8	009	BATH	.8000
7	037	GOOCHLAND	.8000
6	045	HIGHLAND	.8000
5	090	SURRY	.8000
4	101	ALEXANDRIA	.8000
3	109	FALLS CHURCH	.8000
2	131	WILLIAMSBURG	.8000
1	134	FAIRFAX CITY	.8000

Unemployment Rates

Trends

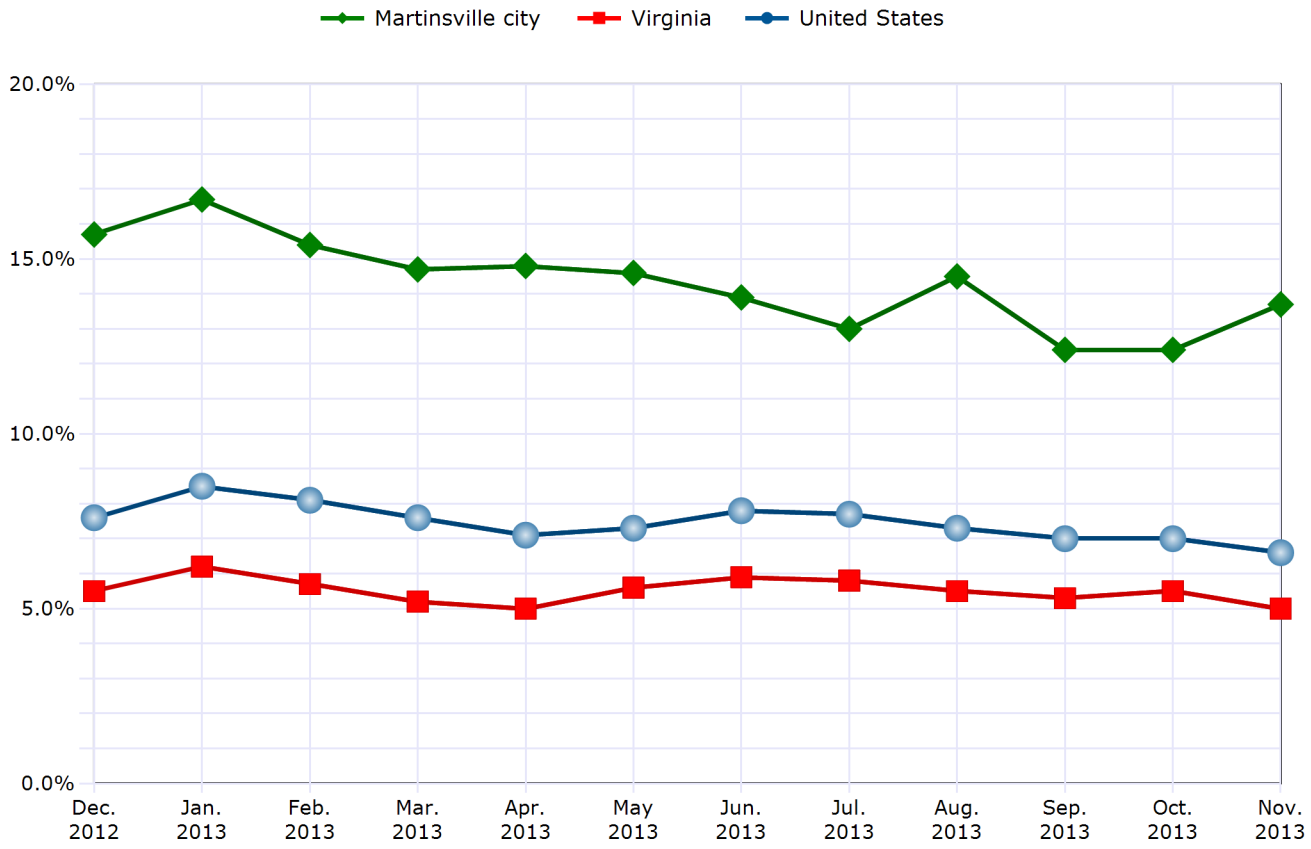


	Martinsville city	Virginia	United States
2002	12.5%	4.2%	5.8%
2003	10.5%	4.1%	6.0%
2004	12.0%	3.7%	5.5%
2005	10.0%	3.5%	5.1%
2006	7.2%	3.0%	4.6%
2007	8.3%	3.1%	4.6%
2008	12.0%	4.0%	5.8%
2009	19.9%	6.9%	9.3%
2010	20.4%	7.1%	9.6%
2011	18.7%	6.4%	8.9%
2012	16.0%	5.9%	8.1%

Source: Virginia Employment Commission,
Local Area Unemployment Statistics.

Unemployment Rates

Past 12 Months



	Martinsville city	Virginia	United States
Dec. 2012	15.7%	5.5%	7.6%
Jan. 2013	16.7%	6.2%	8.5%
Feb. 2013	15.4%	5.7%	8.1%
Mar. 2013	14.7%	5.2%	7.6%
Apr. 2013	14.8%	5.0%	7.1%
May 2013	14.6%	5.6%	7.3%
Jun. 2013	13.9%	5.9%	7.8%
Jul. 2013	13.0%	5.8%	7.7%
Aug. 2013	14.5%	5.5%	7.3%
Sep. 2013	12.4%	5.3%	7.0%
Oct. 2013	12.4%	5.5%	7.0%
Nov. 2013	13.7%	5.0%	6.6%

Source: Virginia Employment Commission, Local Area Unemployment Statistics.

BUSINESS CLIMATE

Labor Force
Major Employers
Taxes and Incentives
Utilities
Workforce Training
Transportation
Sector Profiles
Manufacturing
Distribution / Warehousing
Back Office Operations

Home » Business Climate » Labor Force

Unemployment Rate (November 2013)

Area	Labor Force	Employed	Unemployed	UE Rate
City of Martinsville	5,329	4,601	728	**13.7%**
Henry County	23,240	21,510	1,730	**7.4%**
Martinsville-Henry Co. Combined	28,569	26,111	2,458	**8.6%**

M-HC Employed Population by Industry (2013)

Industry Sector	Total Employed	% Employed
Services	11,791	44.7%
Manufacturing	5,909	22.4%
Retail Trade	3,245	12.3%
Transportation/Utilities	1,741	6.6%
Public Administration	976	3.7%
Construction	950	3.6%
Finance/Insurance/Real Estate	897	3.4%
Wholesale Trade	501	1.9%
Information	237	0.9%
Agriculture/Mining	158	0.6%

22.4%

Percentage of Martinsville-Henry County, Virginia workers employed in **MANUFACTURING**

Source: ESRI 2013

Martinsville-Henry County Economic Development Corporation
134 East Church Street, Suite 200 PO Box 631, Martinsville, Virginia 24114
Phone: 276.403.5940 | Fax: 276.403.5941

MARTINSVILLE
HENRY COUNTY VIRGINIA
ECONOMIC DEVELOPMENT

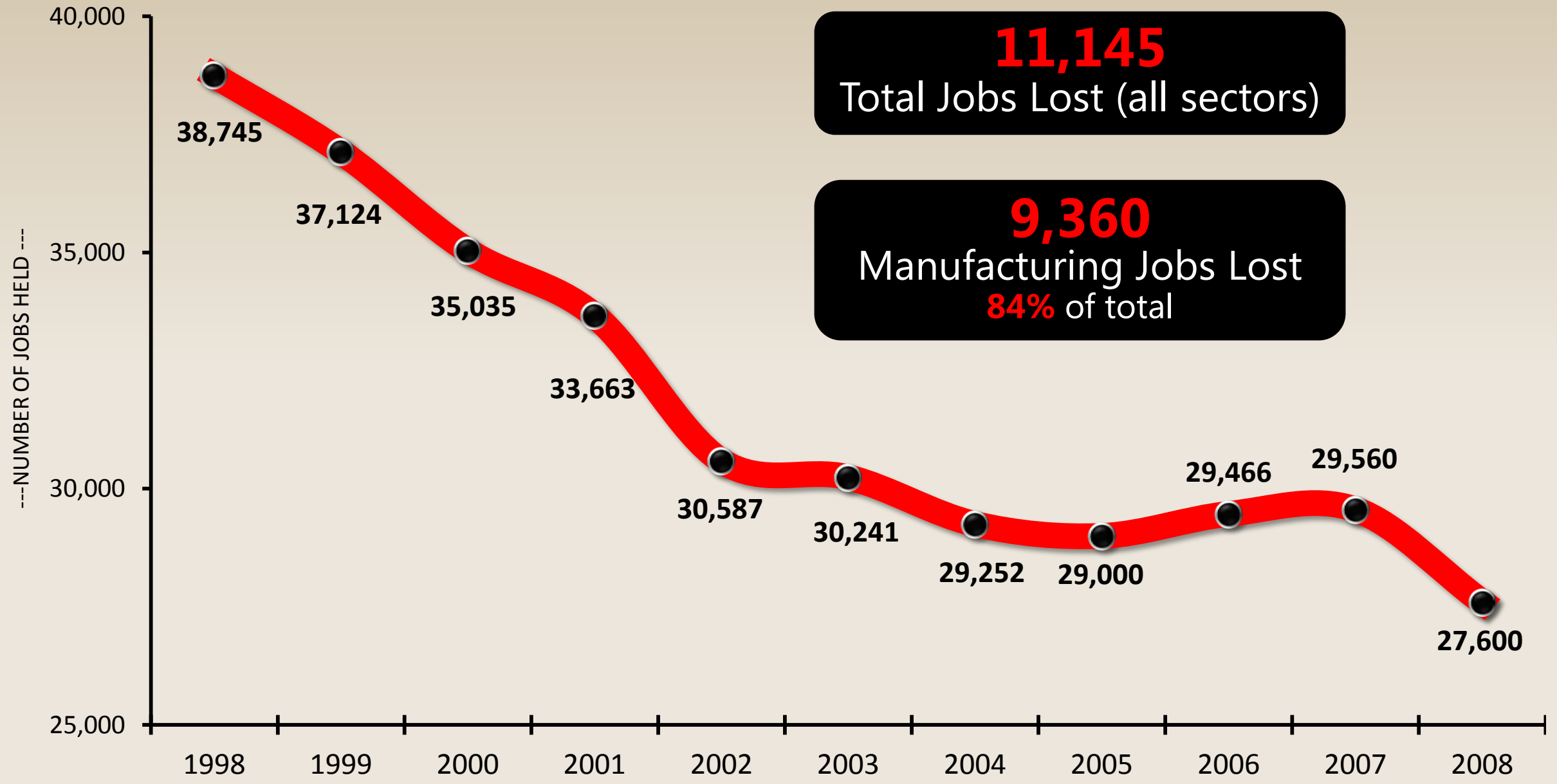
The Martinsville-Henry County Experience

Economic Challenges, Successes and Opportunities

October 15, 2009

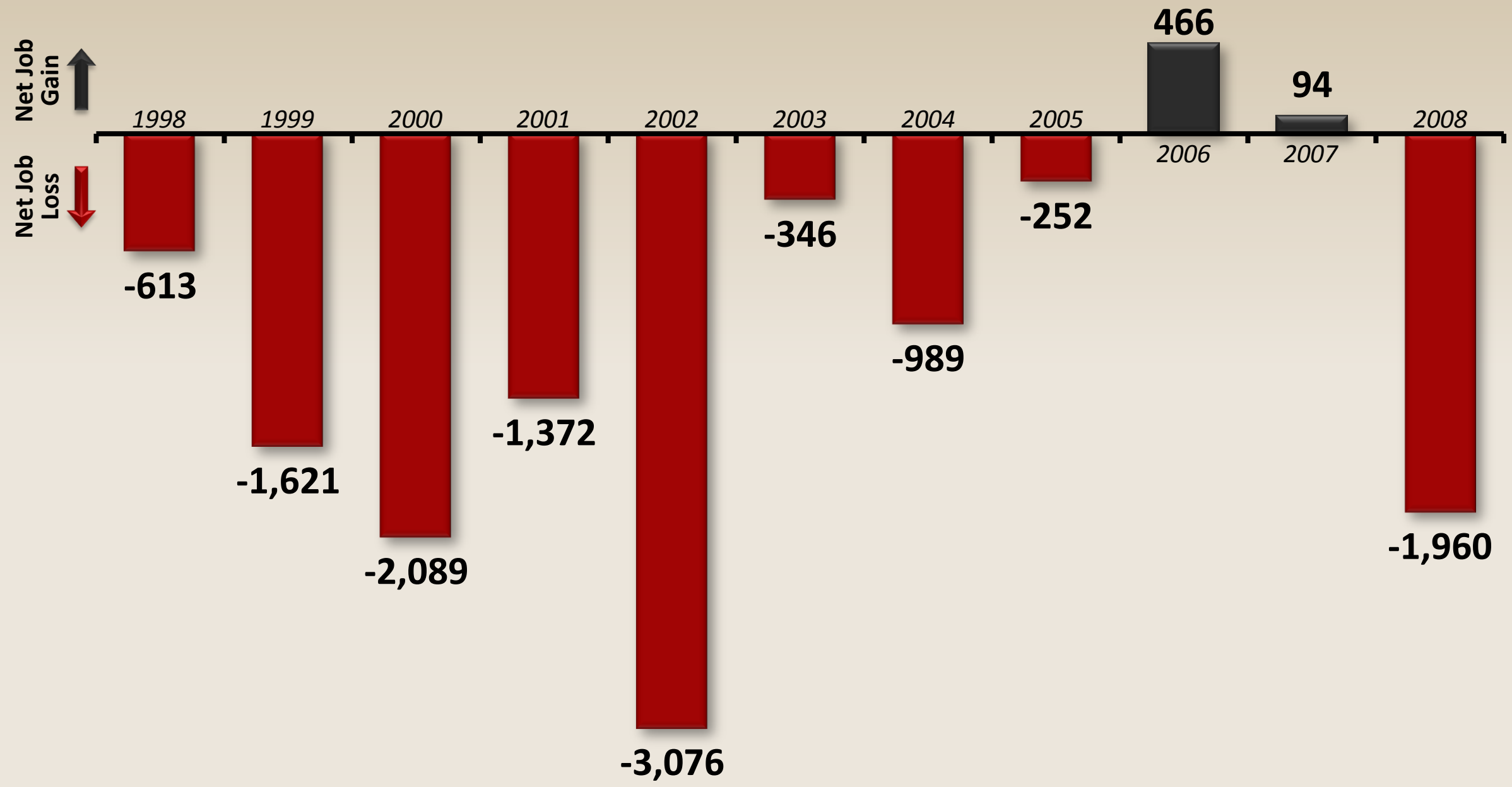
"To create new job opportunities and expand the tax base for Martinsville-Henry County; to support and develop local industry, as well as market Martinsville-Henry County globally as an exceptional place to live, work and play…"

EMPLOYMENT IN MARTINSVILLE-HENRY COUNTY: 1998 to 2008



Source: Labor Market Statistics - Quarterly Census of Employment and Wages

NET JOB LOSS/GAIN IN MARTINSVILLE-HENRY COUNTY: 1998 to 2008



MARTINSVILLE
HENRY COUNTY VIRGINIA

COMMUNITY PROFILE

Business in Martinsville-Henry County, Virginia thrives on a community built on a strong work ethic. Perhaps best known for its high-energy, heart racing NASCAR speedway, Martinsville has a small-town feel yet is located close to major metro areas. A low cost of doing business plus plenty of diverse, prepared building sites make Martinsville-Henry Co. an ideal business location.

LABOR FORCE (2013)

Martinsville/Henry County	29,602
Extended Labor Market (Surrounding Counties)	159,340
Total	**188,942**

Source: Environmental Systems Research Institute (ESRI) 2013

EMPLOYED POPULATION BY INDUSTRY (2013)

Agriculture/Mining	158	0.6%
Construction	950	3.6%
Manufacturing	5,909	22.4%
Wholesale Trade	501	1.9%
Retail Trade	3,245	12.3%
Transportation/Utilities	1,741	6.6%
Information	237	0.9%
Finance/Insurance/Real Estate	897	3.4%
Services	11,791	44.7%
Public Administration	976	3.7%
Total	**26,405**	**100%**

Source: Environmental Systems Research Institute (ESRI) 2013

MAJOR EMPLOYERS

Company	*Product*	*Workers*
Springs Global	Bedding	500-1,000
Eastman	Window Film	250-500
Hanesbrands	Distribution	250-500
Monogram Meat Snacks	Food Processing	250-500
Nautica	Distribution	250-500
GSI Commerce/eBay	Distribution	250-500
Commonwealth Laminating	Window Film	100-250
Faneuil	Back Office	100-250
Bassett Furniture	Furniture	100-250
Hooker Furniture	Furniture	100-250
Nationwide Homes	Modular Homes	100-250
Nilit USA	Nylon Yarn	100-250
Drake Extrusion	Geotextiles	100-250
Stanley Furniture	Furniture	100-250
West Window Corp.	Windows	100-250

67,850

Total **POPULATION** of Martinsville-Henry County, Virginia

Source: ESRI 2013

LESS THAN **1%**

Rate of **UNIONIZATION** in Martinsville-Henry County, Virginia

Source: Local Wage and Benefit Survey

22.4%

Percentage of Martinsville-Henry County, Virginia workers employed in **MANUFACTURING**

Source: ESRI 2013

Source: US Census Bureau

MARTINSVILLE
HENRY COUNTY VIRGINIA

DISTANCE TO MAJOR MARKETS

City	Driving Distance	Drive Time
Greensboro, NC	45 mi (72 km)	1:05
Roanoke, VA	56 mi (90 km)	1:10
Raleigh-Durham, NC	98 mi (158 km)	2:01
Charlotte, NC	135 mi (217 km)	2:29
Richmond, VA	185 mi (298 km)	3:21
Norfolk, VA (Port of VA)	225 mi (362 km)	4:12
Washington DC	261 mi (420 km)	4:33

INTERSTATE DISTANCE

Interstate	Distance
40	46 mi/74 km
85	51 mi/82 km
81	57 mi/92 km
77	64 mi/103 km

Distance measured from center of Henry County
All of the interstates listed above are connected by 4 lane divided highways

HENRY COUNTY TAX RATES

Real Estate Tax	$0.488 per $100
Machinery/Tools/Business Equipment -Excluding Computers (assessed at 97% year 1, 87% year 2, 77% year 3, 67% year 4, and 57% years 5+)	$1.48 per $100
Computer Equipment (assessed at 71% year 1, 60% year 2, 50% year 3, 40% year 4, and 30% years 5+)	$1.48 per $100

Local taxes are paid for **EITHER** Henry County **OR** the City of Martinsville, **BUT NOT BOTH**

CITY OF MARTINSVILLE TAX RATES

Real Estate Tax	$1.0621 per $100
Machinery/Tools (assessed at 90% year 1, 80% year 2, 70% year 3, etc.)	$1.85 per $100
Business Equipment (assessed at 90% year 1, 80% year 2, 70% year 3, etc.)	$2.30 per $100

Local taxes are paid for **EITHER** Henry Co. **OR** the City of Martinsville, **BUT NOT BOTH**

HIGHER EDUCATION FACILITIES

Facility	Enrollment
Patrick Henry Community College	3,501
New College Institute	413
National College – Martinsville	300
Danville Community College	4,387
Ferrum College	1,450
Averett University	1,100

Enrollment numbers are from the 2010 academic year

LOCAL INCENTIVES

Incentive	Description
Real Property Enterprise Zone Grant	100% Yr 1; 50% Yr 2-5
Machinery/Tools Enterprise Zone Grant	100% Yr 1; 50% Yr 2-5
Building Permit Fee Waiver	Approx. 8 cents/SF
Water/Sewer Connection Fee Waiver	Varies based on need
Potential Financing Options	Aggressive Interest Rates
Corporate Income Tax Rate of 6%	Not increased in 30 yrs.

20¢/SF

AVERAGE MONTHLY LEASE RATE for manufacturing/distribution space in Martinsville-Henry County, Virginia.

89.1

COST OF LIVING INDEX for the Martinsville-Henry County micropolitan area
(National Average = 100.0)

Source: ACCRA 2012 Annual Average Data

$11.02/hr.

Average hourly wage for a **MACHINE OPERATOR** in Martinsville-Henry County, Virginia.

Source: Local Wage & Benefit Survey 2010

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Martinsville city, VA
Martinsville city, VA (51690)
Geography: County

	Martinsville city, VA (51...
2013 Population 25+ by Educational Attainment	
Total	9,724
Less than 9th Grade	8.4%
9th - 12th Grade, No Diploma	12.2%
High School Graduate	29.8%
Some College, No Degree	22.7%
Associate Degree	8.2%
Bachelor's Degree	12.3%
Graduate/Professional Degree	6.4%
2013 Population 15+ by Marital Status	
Total	11,299
Never Married	28.6%
Married	46.2%
Widowed	10.7%
Divorced	14.6%
2013 Civilian Population 16+ in Labor Force	
Civilian Employed	89.6%
Civilian Unemployed	10.4%
2013 Employed Population 16+ by Industry	
Total	5,045
Agriculture/Mining	0.3%
Construction	2.2%
Manufacturing	16.8%
Wholesale Trade	1.4%
Retail Trade	13.3%
Transportation/Utilities	9.1%
Information	0.7%
Finance/Insurance/Real Estate	6.4%
Services	43.6%
Public Administration	6.1%
2013 Employed Population 16+ by Occupation	
Total	5,045
White Collar	55.6%
Management/Business/Financial	9.5%
Professional	16.2%
Sales	10.4%
Administrative Support	19.6%
Services	20.5%
Blue Collar	23.9%
Farming/Forestry/Fishing	0.0%
Construction/Extraction	1.7%
Installation/Maintenance/Repair	1.4%
Production	10.8%
Transportation/Material Moving	10.0%

Source: U.S. Census Bureau, Census 2010 Summary File 1. Esri forecasts for 2013 and 2018. Esri converted Census 2000 data into 2010 geography.

January 07, 2014

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SEMAA

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SEMAA

Science, Engineering, Mathematics and Aerospace Academy

Martinsville City Public Schools

Long known for its innovation in education, the Martinsville City Public Schools, or MCPS has partnered with the National Aeronautics and Space Administration to bring the Science, Engineering, Mathematics, and Aerospace Academy to the city of Martinsville, VA.

Established in the Fall of 2002, the NASA SEMAA Project at Martinsville Middle School is a math and science enrichment program that uses the unique resources of NASA to provide students with a better understanding of and greater appreciation for science, technology, engineering and mathematics, or STEM. SEMAA features the Aerospace Education Laboratory, an extraordinary, computer enhanced, learning environment that puts real aerospace hardware and software at the fingertips of middle school students. The Project uses proven curriculum enhancement activities provided by NASA and focuses on inquiry-based learning.

Locally based at Martinsville Middle School, the NASA SEMAA Project is an integral component of the school's curriculum and is offered to students during their regular academic day. As an important part of the school's "exploratory wheel," 6th- and 7th-grade students can choose to enroll in the SEMAA project for a 12-week block while 8th-grade students can elect to participate in a one-semester exploratory course.

The NASA SEMAA Project at Martinsville Middle School makes it possible for local 6th- through 8th-grade students to significantly improve their math and science literacy by conducting real-world experiments, and learning to gather, analyze, and apply information.

The documented success of the NASA SEMAA project at Martinsville Middle School has prompted district officials to expand the project to other area schools in recent years. The addition of both Patrick Henry Elementary and Albert Harris Elementary Schools has made it possible to give students in grades 1-5 an early start on their STEM education. Participating elementary and middle school teachers are able incorporate the NASA SEMAA lessons directly into their science curriculums, thus supporting the district's mission to enhance teachers' focus on the Virginia Standards of learning.

Calendar of Events

Session Dates

Summer:

June 10 - 14, 2013

June 17 - 21, 2013

Contact Information

Director

Ms. Anne H. Stultz

21st Century Programs Coordinator

NASA SEMAA Site Director

201 Brown Street

Martinsville, VA 24112

Phone: 276-403-5886

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Martinsville City Public Schools SEMAA Web site:

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MARTINSVILLE HENRY COUNTY VIRGINIA You'll Love the Pace!

Students in SEMAA lab get visit from NCI chief

Former state Sen. William Wampler, the new executive director of the New College Institute, talks to seventh-grader Jordan Kidd on Thursday as Jordan operates the flight simulator at Martinsville Middle Schoolâ €™s NASA SEMAA lab. Wampler visited the lab to see how students there learn about science, math, engineering and technology. (Contributed photos by Kim Barto)

More Photos

Monday, February 27, 2012

By KIM BARTO -

The new executive director of the New College Institute praised the Aerospace Education Laboratory at Martinsville Middle School during a tour last week.

Former state Sen. William Wampler, who took the helm of NCI in January, visited the school's NASA SEMAA (Science, Engineering, Math and Aerospace Academy) lab on Thursday. It is the only program of its kind in Virginia and one of just 16 NASA SEMAA sites in the nation.

Wampler observed lessons Thursday and talked to seventh-graders as they worked at hands-on aviation activities.

"It blew me away to see students fully engaged in the daily classroom where STEM (science, technology, engineering and math) is being practiced at every level," Wampler said. "Students were engaged, excited and enthusiastic. As a dad, I'd say that's what every classroom should be about."

During the visit, he talked with students JaQuale King and Jordan Turner as they plotted a simulated cross-country flight after going outside to see if weather conditions were conducive to flying.

Wampler, a retired colonel who was in the military for 24 years, took a compass from his pocket and showed the students how to read it as they planned their flight path. Then, he observed Jordan Kidd using the flight simulator.

"It's a pretty cool class," he said afterward.

"I think the SEMAA lab epitomizes the type of engage learning processes that we want to replicate," said Martinsville schools Superintendent Pam Heath. "The beauty of the program is that it integrates math, science and technology in a way that perks students' interest. It becomes meaningful to them because they can see the real-life applications."

SEMAA Site Director Anne Stultz explained that the program uses NASA lesson plans and technology to teach students about space, the principles of flight, engineering, robotics and other fields, with an emphasis on learning about careers in STEM fields. Students do research on careers and hear from speakers in the work force, such as from Solutia and RTI.

One of the goals of the program is to spark students' interest in pursuing college studies and careers in these fields.

"We're looking forward to continued collaboration with the New College on ways we can make sure we are a pipeline for students to move seamlessly into higher education," Heath said, "as well as to prepare students for the needs of our local employers, now and in the future."

The Martinsville Middle School class is a popular elective that rotates every 12 weeks, Stultz said. Students in kindergarten through fifth grade also take part in SEMAA science lessons in their classrooms.

"The kids love it because it's so hands-on," Stultz said of the class.

Editor's note: Kim Barto is community outreach and grants coordinator for the city schools.

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LEGO robotics camp teaches math, engineering

Above, Abby Mounce, LEGO robotics camp participant and rising sixth-grader, works on a computer to program her robot Thursday during the camp at the New College Institute. (Bulletin photo by Ashley Jackson)

More Photos

Friday, June 22, 2012

By ASHLEY JACKSON - Bulletin Staff Writer

Between building and programming robots, students were learning a lot about technology, math and engineering on Thursday.

About 30 students took part in a LEGO robotics camp this week at the New College Institute and sponsored by the Martinsville Middle School NASA SEMAA (Science, Engineering, Math and Aerospace Academy) program.

During the camp, students built and programmed robotic vehicles using LEGO construction toys and competed against one another on a FIRST LEGO League course.

On the "Food Factor" course, which contained obstacles pertaining to the environment, students had to use the robots to complete missions such as pushing a corn harvester across the course until LEGO pieces that represented corn exited out of the harvester; retrieving fish from a pond designed on the course; and dumping a load of LEGO parts that represented bacteria without dropping any on the course.

Most of the students participating in the camp, which is offered to rising sixth- through eighth-graders at MMS, were rising sixth-graders who never had been on a robotics team before, said Mark Toole, camp instructor and robotics team coach for Martinsville middle and high schools.

The purpose of the camp is to teach students about science, technology, math and engineering, and also to get them excited about robotics programs that could spark an interest in pursuing careers in robotics and engineering, Toole said.

The hope also is to recruit students for the middle school's three robotics teams, and so far, students in the camp have expressed interest in joining a robotics team, he added.

Students in the camp learn how to work as a team, which is vital when competing in regional and state robotics team competitions, Toole said.

"You have to work in a team to get it done ... you can't work by yourself," said Ainsley Phillips, a rising sixth-grade camper.

When they work together, students can bounce ideas off of one another on how to build or ways to program their robots as well as problem solve when the robot does not successfully complete a mission, Ainsley said.

He enjoyed the camp because he loves working with computers, and robotics allows him to do so when programming the robot, he said.

Tristan Mase, a rising sixth-grader and camp participant, grew up playing with LEGO bricks, so getting to design and build a robot with the building blocks is especially fun, he said.

Abby Mounce, camp participant and rising sixth-grader, found out during the camp that it is more technical than she thought to build and program a robot, she said.

Abby learned that "you have to be very focused to be able to do this (build and program)," she said.

Her favorite part of robotics is the feeling of accomplishment she gets when "you see that what you did is actually working" and the robot is successfully navigating the course, she said.

"I never realized robotics would be this fun," she added.

A great deal of math is incorporated into programming the robots, Toole said. Students are required to measure the circumference of a robot's wheels and calculate how many rotations need to be programmed into the computer for the robot to move a certain distance across the course, he added.

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Abby said working with robots has made her enjoy math and science more, as well.

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SEMAA Elementary Robotics Summer Enrichment Camp

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Martinsville High School FIRST Robotics Competition Team
VCU
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Mobile lab helps students learn green technologies

Back

Martinsville Middle School sixth-grader Morgan Clemons turns the human power generator to light a compact fluorescent light bulb on Thursday inside of the Institute for Advanced Learning and Researchâ €™s STEM mobile learning lab. (Bulletin photo by Ashley Jackson)

Friday, February 17, 2012

By ASHLEY JACKSON - Bulletin Staff Writer

Students in the NASA SEMAA program at Martinsville Middle School experienced green technologies this week thanks to a visit by the Institute for Advanced Learning and Research's STEM (Science, Technology, Engineering and Mathematics) Mobile Learning Lab.

About 58 SEMAA (Science, Engineering, Mathematics, Aerospace Academy) students in sixth and seventh grades, as well as about 20 former SEMAA students who are eighth-graders, got to experience the various green technologies on display inside of the approximately 320-square-foot lab.

There were several displays in the mobile lab, which is a project of the Danville-based institute. Bruce Waller, Green Jobs Project liaison at the Institute, and David Sartin, mobile STEM lab driver and instructor, led the students in various activities.

The activities included a human power generator equipped with a wheel that the students turned to compare the amount of energy used to light an incandescent light bulb with the amount used to power an energy-efficient compact fluorescent light (CFL) bulb.

The students noticed that the wheel was easier to turn when powering the CFL bulb because that bulb uses 13 watts, compared with 60 watts for the incandescent light bulb, according to Waller.

Students also learned about how solar power - generated by the sun shining on solar panels - works and keeps the environment clean.

In the lab, objects with solar panels attached to them were powered by lights. The objects were toy cars, toy grasshoppers and toy frogs. Especially with the toy grasshoppers, the students were able to feel the grasshoppers start to jump once the light hit them.

In another activity, students used fans to turn wind turbines to power lights. Sixth-grader Jack Gardner put on 3D glasses to view a flashing light that had been powered by the fan.

He found it cool that so many kinds of lights and electricity can be powered just by the wind, he said.

Digital microscopes on display allowed the students to view their fingerprint patterns at 60 times magnification on computer screens attached to the microscopes.

Students also got to view images on a "pro-scope," which is a microscope that shoots images with a 200 times magnification. The scope can go up to 400 times magnification, Waller said.

Another display was a solar oven that cooks various foods using solar energy.

A power house was also shown. It is a model made of Styrofoam that operates using solar and wind energy (including solar power to heat the water). A greenhouse used to grow vegetation and other plants is attached.

The mobile lab's motto is "Hands On, Minds On," Waller said. The institute hopes these kind of hands-on experiences prompt students to want to learn more about STEM fields, he said.

The students got to witness another green technology during the visit.

The mobile lab is pulled by a truck that runs on used vegetable oil that the institute collects from schools in the Danville school system, Waller said.

Before using the vegetable oil, the institute spent $500 a month on diesel. It now spends less than $100 a month, Waller said, adding that the truck does still use some diesel.

The visits Thursday and today are the first time the mobile learning lab has been at Martinsville Middle

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School.

The lab is funded by the Virginia Tobacco Indemnification and Community Revitalization Commission and the Community Foundation of the Dan River Region, according to Sartin.

Martinsville Schools is "very fortunate to have it (the lab) close enough to come to Martinsville," said Anne Stultz, the school system's SEMAA site director.

The school system "is emphasizing STEM, and this goes right along with it," she added.

The lab has been traveling since spring 2010 and has visited more than 160 sites, including more than 10,000 students, according to Waller.

The lab "offers them (the students) something that they don't get in the classrooms," Waller said.

Due to budget cuts, many school systems simply can't provide access to such technologies, Sartin said.

The lab is provided without charge in the cities of Martinsville and Danville and the counties of Patrick, Henry, Franklin, Pittsylvania, Halifax and Mecklenburg in Virginia and Caswell County in North Carolina, according to Waller.

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MMS students tour RTI plant

RTI Safety and Environmental Manager Stuart Bowman (center) and Human Resources Manager Glenn Wood (left) lead students from Martinsville Middle School on the first field trip to the facility. (Contributed photo)

Wednesday, October 10, 2012

A class from Martinsville Middle School last week became the first nonofficial visitors to RTI International Metals Inc. in the Patriot Centre industrial park.

Seventh-graders in the NASA SEMAA program (which stands for Science, Engineering, Math and Aerospace Academy) toured the facility as part of their studies of aerospace and high-tech careers.

RTI specializes in advanced titanium products and other specialty metals, mainly for use in aerospace and some medical equipment.

Human Resources Manager Glenn Wood and Safety and Environmental Manager Stuart Bowman led a tour of the advanced manufacturing facilities and told students what the company looks for in hiring employees.

"The experience was part of our ongoing efforts to bring real life to students' learning," said Superintendent Pam Heath, who accompanied the group. "We want our students to be aware of career options and how the workflow of a business really operates. Then we want them to make that connection between what they are taught at school and the knowledge and skills they must master to be successful in a global workforce."

Wearing hard hats and safety glasses, students and school officials watched stainless steel being forged in a natural gas-powered furnace that reached 2,100 degrees. The piece weighed 16,620 pounds — almost as much as a school bus. Students also saw a 5,500-ton press in action, one of only three or four in the U.S. They learned about titanium grinding, a process so bright it cannot be watched directly.

The students "were able to directly relate to what we were doing with what they're studying," Wood said.

Students learned that more than 80 percent of the titanium pieces manufactured here are used in aerospace products, which fits the SEMAA program's focus on flight and space. RTI's titanium products also are used as joint replacements for people because the metal is less corrosive than steel. Another RTI facility also fabricated the part of the mechanism that stopped the BP oil spill, students learned.

"I think the students saw that manufacturing today is quite different from anything they may have previously imagined," Wood said. "I think they have an appreciation for where things come from and certainly about why we are so particular in our quality."

The trip made an impression on the seventh-graders.

"It was cool getting to see how they worked with the metal" and "getting to see the grinder that they used smoothing it out," said student Daniel Peay.

Morgan Clemons called the trip "very amazing."

"I was surprised at how hot the oven was. We could feel the heat," even from a safe distance away, she said, adding that she learned "getting along with everybody" is important for careers at RTI.

"It was exciting to see how they controlled machines to pick up the steel," student Isaiah Martin said. The jobs require "teamwork, like in the control room."

"If we truly want our students to understand why teamwork, math and science are important, they need this type of exposure where they can see these concepts in action in real life," Heath said. "It's one thing to talk in the classroom about a temperature of 2,000 degrees. It's quite another to work with colleagues in a setting where you literally feel the blast of heat from this furnace that is so hot, it causes a 16,000-pound piece of stainless steel to glow like fire."

The field trip fit the school system's emphasis on skills that workers need to compete successfully in

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the 21st century economy, said Assistant Superintendent for Instruction Angilee Downing, who accompanied the group.

“We’re hearing from all our business partners about the need for collaboration, teamwork, critical thinking and problem-solving,” and observing RTI employees on the job drove that point home, Downing said. “They have to pay close attention and catch any little thing that goes wrong. You have to be able to think on your feet.”

Precision and attention to detail are crucial at RTI. The failure rate of the parts made at RTI is only 1 out of 10,000,000, students were told.

“In aerospace you really can’t have a tolerance for failure,” Wood said, because people’s lives are on the line.

In addition to the technical knowledge and computer literacy, he said, “it’s important to get along with people and work together. We have a very small workforce and are very reliant on one another. We tried to impress that upon the students.”

Despite the “massive facility,” there are only 27 employees, Wood said. “The number of people actually producing something here is pretty minimal because of the sophistication of the equipment. It’s not as labor-intensive.”

RTI employs mechanical craftsmen, who maintain and repair the equipment; utility operators, who operate the equipment and monitor the furnaces; support staff; and engineers, who need a strong background in advanced math. Wood said they hope to have a recent graduate of engineering school there to talk to students on the next field trip.

Students are following up in the SEMAA classroom by doing a career project. Each student chooses a career related to science, technology, engineering or math to research and learn what education it requires.

RTI started more than 60 years ago and has facilities in North America, Europe, and Asia. Its Henry County facility opened in December.

“Because we’re such a small community, people may not realize how globally connected some of our local businesses are,” Heath said. “It just shows that whether you move away or stay in this community, these skill sets are needed.”

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Space comes to students through NASA specimens

Back

Hunter Hendricks (left) and Mahetab Bayoumy, Martinsville Middle School students in the NASA SEMAA program, study lunar and meteorite samples on loan from NASA. (Contributed photos)

Monday, May 13, 2013

Students in Martinsville City Schools' Science, Engineering, Math & Aerospace Academy (SEMAA) program got a glimpse of the moon up close recently.

NASA loaned lunar samples and meteorite pieces to the program. The specimens were returned to NASA last week after students studied the pieces in the aerospace education laboratory at Martinsville Middle School, Earth science classes at Martinsville High School and fifth-grade classes at Albert Harris and Patrick Henry elementary schools.

"This is a real extension of the curriculum. It's been a once-in-a-lifetime experience for these kids," said Anne Stultz, the division's 21st century programs coordinator who oversees the Martinsville SEMAA site. "It has really impacted them, to get up close and study something that has actually been on the moon or in space."

The lunar specimens cost $264 million per gram of rock and are among more than 2,000 samples collected during six Apollo missions, Stultz said.

"They are considered a national treasure because they are irreplaceable," she added.

To borrow them, Stultz had to attend a special training at the Air and Space Center in Hampton to obtain "lunar certification," fill out "pages and pages of paperwork" with NASA and follow strict security procedures, including keeping the briefcase of samples with her literally at all times. When not in use in the classroom, Stultz had to deposit the samples in a locked, immovable safe at the Virginia Museum of Natural History.

The classroom lessons included a SmartBoard program where students "could see exactly where on the moon each sample came from," Stultz said.

Students also learned that the 12 astronauts who have walked on the moon and collected the samples have all been men.

"We put a challenge out there to the girls to change that," Stultz said.

Martinsville Schools host the only NASA SEMAA program in Virginia and one of just 16 in the country. However, Stultz said, the national SEMAA office is exploring the possibility of expanding the curriculum program to include nearby school districts, making them satellite sites sponsored by the Martinsville SEMAA site. That will depend on federal funding approval, she said.

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SEMAA science activities start in elementary school and continue when students reach Martinsville Middle School, home of the NASA Aerospace Education Laboratory. Students love using the lab's full-size flight simulator (pictured above) and other technology. The SEMAA robotics program is also popular; students work in teams to design, build and program small robots to navigate an obstacle course.

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Wampler at NCI: Education supports economic development

Back

William Wampler (seated), the new executive director of the New College Institute, confers with Associate Director/Chief Academic Officer Leanna Blevins during his first day on the job Wednesday. (Bulletin photo by Mickey Powell)

Thursday, January 12, 2012

By MICKEY POWELL - Bulletin Staff Writer

Higher education and economic development go hand-in-hand, according to the New College Institute's new executive director.

"One without the other doesn't work," said William Wampler, a former state senator who started his job at the institute in Martinsville on Wednesday.

NCI's future success will depend heavily on being able to provide students the education they need for jobs available in the area, so the institute and local economic developers must work together closely, Wampler said.

Funded by the state and The Harvest Foundation, NCI offers local access to higher-level courses needed to earn certain bachelor's and master's degrees from universities statewide. Students must take freshman- and sophomore-level courses elsewhere, such as a community college.

NCI is working with economic developers to determine degrees and courses that are needed for area jobs. Also, Wampler said he wants to find out from local schools and students what types of careers interest them.

More than 400 students have attended NCI since it opened five years ago, and about 250 have earned degrees by taking classes there. Officials have said the institute has been more successful in its first few years than they ever imagined.

Yet "there will come a day when enrollment will surge at the New College," Wampler said, "because we will offer the courses that match the immediate needs of students" seeking jobs in the region.

"That will be the day we know we've truly met the challenge of educating students in this community," he said.

NCI has the ability to attract students not only from Henry County and Martinsville, but also surrounding areas and elsewhere, he indicated.

"Students don't care where the state line is if you're offering them classes that make sense" to them and to help earn degrees, Wampler said.

What he hears from students and other "tuition payers," such as parents, most often is "we want access to affordable higher education," he said.

Because it helps area students earn degrees without having to travel long distances to universities, and therefore save on expenses such as gas and living quarters, NCI facilitates an affordable education, said Wampler.

"At the end of the day ... it's what you can afford" that matters, he added.

The General Assembly convened Wednesday. As of that day, Wampler, who had represented the Bristol area in the state Senate since 1988, no longer was a lawmaker. He decided not to seek re-election.

On Jan. 3, NCI's board hired Wampler to be the institute's second executive director. He succeeds Barry Dorsey, who recently retired but is consulting for the private Carlisle School near Axton.

Wampler served on Senate finance and education panels and was a staunch supporter of NCI, according to institute officials.

For the past two years, he was on Gov. Bob McDonnell's Higher Education Commission with lawmakers, business leaders and academicians statewide.

McDonnell's two-year budget proposal, which lawmakers will mull, includes more than $200 million in extra funds for colleges and universities. However, it essentially keeps NCI level-funded.

NCI is receiving $1,464,107 in state funds for the current fiscal year. That amount is proposed to rise to $1,471,039 for fiscal 2013, which will start July 1, and to $1,471,055 the next year, according to Associate Director Leanna Blevins and Finance Director Christina Reed.

Officials did not know the reason for the $16 increase in fiscal 2014.

Wampler said he understands most of the higher education funding increase is intended for universities. He is not complaining, though. That money could help them offer new initiatives such as

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programs at NCI, he said.

Beginning this fall, NCI will partner with three universities - Radford, Virginia State and Virginia Commonwealth - to offer all NCI's academic programs.

"NCI, through its (university) partners, will find ways to jump start" the governor's goal for colleges and universities to bestow 100,000 degrees during the next 10 years, he noted.

Ultimately, NCI's goal is to become a branch campus of a public university. Efforts toward that goal will continue, although in tough economic times it could be hard to persuade a university to take on a branch campus due to expenses involved, Wampler said.

As more and more jobs require higher levels of skills, NCI will play a crucial role in preparing people for those jobs, according to Wampler.

For that reason, continuing to fund the institute has widespread support in the General Assembly, he said.

"When they think of NCI," Wampler said, lawmakers "think of it as being a powerful tool to reverse the trend" of unemployment.

He does not perceive any lack of support for NCI among any of his former legislative colleagues. But he admitted that he thinks a few lawmakers - he did not name them - need to become better educated about economic struggles in the region and "the difference that a well-educated work force can make" in attracting jobs.

"That's the story we need to tell," Wampler said. Basically, "we are the newest college. We're the hope for a brighter day in terms of (having) an educated work force."

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Engineering, technology academy unveiled at NCI

Keith Williamson, left, dean of the School of Engineering at Virginia State University, describes the engineering program at his school Thursday to students and their parents at the New College Institute in Martinsville. (Bulletin photo by Mike Wray)

More Photos

Friday, July 13, 2012

By MICKEY POWELL - Bulletin Staff Writer

A program being developed by the New College Institute (NCI) and Virginia State University (VSU) will help high school students interested in high-tech careers get a jump on going to college or finding a job.

The Academy for Engineering and Technology will be open to sophomores, juniors and seniors at Martinsville, Bassett and Magna Vista high schools and Carlisle School who would have dual enrollment with the academy. It is designed to help pupils find jobs at high-tech companies or pursue higher education in engineering, technology or manufacturing.

The Henry County and Martinsville school systems also are partners in the program.

About three dozen students and parents attended an information session about the program, which is at no cost to parents, Thursday night at NCI.

Many manufacturers today use machines that are heavily computerized or technologically advanced. Employees must be able to manage and interpret data the machines provide — such as operating temperatures and pressures of fluids flowing through them — to make sure the machines operate properly and manufacturing processes are not stalled, according to NCI and VSU officials.

NCI and VSU are developing an advanced manufacturing higher education program that they hope will attract more high-tech companies such as RTI International Metals to the area.

Such companies, according to NCI officials, want workers with engineering, technology and math skills.

"People who have these skills are the ones who are going to move forward" in the modern economy, Pam Heath, superintendent of Martinsville's schools, told students at the information session.

Although the high school-level academy still is being developed, "it's a great opportunity" for students, added Henry County Schools Superintendent Jared Cotton.

Some of the academy classes will be taught at NCI, and others will be taught at the high schools, said Leanna Blevins, the institute's associate director and chief academic officer.

Prerequisites for the academy are courses in geometry, trigonometry and math analysis.

This fall, students in the academy will take courses in advanced placement calculus, technology's impact on society and engineering graphics. They will get experience in designing and building a simulated model race car and the chance to apply for paid internships with local companies next summer.

A model race car built by VSU students was on display at NCI.

The courses will be tough and challenging, but they will "give you a world-class education that is second to none," NCI Executive Director William Wampler told the students.

VSU instructors will teach some of the classes, Blevins said.

NCI is working with VSU to establish the advanced manufacturing program because the university has a School of Engineering, Science and Technology and is a member of the Commonwealth Center for Advanced Manufacturing (CCAM), a high-tech industrial research center in Prince George County.

NCI is developing a curriculum that will help college students earn a certificate — in 12 months or less — in some type of advanced manufacturing process that will help them get jobs with high-tech companies. Then, as they have a desire and the time, they could return to NCI and earn other types of certificates and degrees to help them get better jobs, according to officials.

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The academy will be a dual enrollment program that gives high school pupils college credits, but they will not actually be enrolled in college.

Instead, upon graduating from high school, Blevins said, students will get a certificate in engineering, technology and advanced manufacturing, which can help them get a high-tech manufacturing job if they don't immediately go to college.

Those who do go to college could use the credits they have earned toward degrees from VSU or other universities, she said.

Already having some college credits upon entering college "knocks down the cost of your education" and results in students being able to earn degrees quicker, said Keith Williamson, dean of VSU's engineering school.

A goal of the academy will be to give students knowledge they need to take tests for advanced manufacturing certifications recognized worldwide.

Heath said many companies today are more concerned about workers having those certifications than they are the workers having college degrees.

She noted that students interested in the program can have their schedules changed for the coming school year.

Rising Martinsville High School junior K'Lecia Fountain, the daughter of Kerry and Felecia Fountain, said she is interested in the academy because she likes science and math as well as doing things with her hands.

If she decides to enroll in it, she said, "I'll have the ability to have a job right after high school and put myself through college."

There is no firm deadline for enrolling, but since the opening of school is just a month away, school officials ask that students and parents make decisions as soon as possible.

If students enroll and find they do not like the academy, they can go back to regular courses in the spring, officials said.

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NCI launches academy

Back

Engineering, technology are focus

Thursday, August 23, 2012

By MICKEY POWELL - Bulletin Staff Writer

From left, Martinsville High School students Terrica Hairston and K'Lecia Fountain, who are in the New College Institute's new Academy for Engineering and Technology, talk with Commonwealth Laminating Chief Operating Officer Matt Phillips and board member Richard Hall following a tour of the company Wednesday. (Contributed photo)

Thirty-three local high school students are preparing for high-tech careers through a New College Institute (NCI) program launched last week.

The Academy for Engineering and Technology aims to prepare students to enroll in higher education programs related to those two fields or seek entry-level jobs with manufacturers using advanced technology.

"We weren't sure what to expect, but the response has been great," said Leanna Blevins, NCI's associate director and chief academic officer.

No more students will be accepted into the academy this semester because "we don't want the class to be too large (for instructors) to give students individualized attention," Blevins said.

NCI developed the program with help from Virginia State University (VSU). Sophomores, juniors and seniors from Martinsville, Magna Vista and Bassett high schools and the private Carlisle School are eligible to participate in the dual-enrollment program with the university.

"Parents and students seem to be very excited about the program and the possibilities that come with it," Blevins said.

Those possibilities, she said, include learning experiences such as helping to build a race car and paid summer internships with local companies.

Modern industries use heavily computerized machines. Employees must be able to interpret and understand data from the machines, such as operating temperatures and fluid pressures, so manufacturing processes run smoothly, hence the need for educational programs to teach them those skills.

RTI International Metals and Commonwealth Laminating & Coating, which have plants in the Patriot Centre at Beaver Creek industrial park in Henry County, are examples of such companies, NCI officials have said.

Students in the academy toured Commonwealth Laminating on Wednesday.

"They were energetic and excited about seeing real-world opportunities for things they are learning in school," said company board member Richard Hall.

In addition to needing technology skills, Hall said, advanced manufacturing workers must know a lot about science and math.

And, "the ability to have a solid thought process and think on your feet is something we look for in every employee" that is hired, he said.

In terms of teaching those skills, Hall added, NCI's academy is "one of the biggest single positive steps I've seen in the area in a long time" to prepare students for the modern work force.

By developing the academy, NCI and VSU hope to attract other technology-driven companies to the area since people here will have the training needed to do jobs they would provide, according to officials.

Internships can be "a pipeline that employers have to hire from" once the students have completed their studies, Blevins said.

Hall said that when Commonwealth has job vacancies, it is willing to hire people out of high school who are "sharp, driven people."

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Some of the academy's students informally have said they would like to go to college after graduating from high school while some have said they want to go straight to work, Blevins said.

NCI will be coordinating internships for students because many employers, especially industries, do not have experience in working with high-schoolers, Blevins said. The institute will match students' skills with employers' needs and responsibilities of jobs that interns could do, she added.

In order to take part in the academy, students must have passed courses in geometry, trigonometry and math analysis.

Students now enrolled are taking classes in advanced placement calculus, technology's impact on society and engineering graphics.

The calculus class is being taught at high schools by teachers certified to teach dual-enrollment classes. VSU instructors are teaching the other two classes at NCI. Students travel back and forth to the institute by bus.

NCI has not yet decided courses to be taught in the spring. That is because "we're building the bicycle as we ride it," Blevins said, using an analogy.

The academy is based somewhat on some European industrial apprenticeship programs. However, NCI Executive Director William Wampler has said that to his knowledge, nothing like it exists in America, at least in the Southeast.

Students in the academy are considered to be dually enrolled at VSU. After graduating from high school, if they immediately do not go to work, they can pursue a degree from the university or another higher education institution.

Because VSU's engineering and technology department is certified by the Accreditation Board for Engineering and Technology, Blevins said, affiliated courses usually are transferable to other college's engineering programs.

NCI is working with Patrick Henry Community College to find a way for students at the college to enroll in the academy, Blevins said.

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Martinsville High School students attend the Academy of Engineering and Technology (AET) at the New College Institute. Martinsville City Public Schools has a formal partnership agreement with Virginia State University; students earn college credits in engineering courses through the AET program.

Martinsville High School juniors power up their team's solar car using a lamp for a project at the New College Institute’s Academy of Engineering and Technology.

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NCI Academy students see RTI up close

Back

RTI International Metals Human Resources Manager Glenn Wood shows a drain used to contain diesel fuel spills from trucks to New College Institute officials and students in the Industry Fundamentals program of NCI's Academy for Engineering and Technology. (Bulletin photo by Mickey Powell)

Thursday, June 20, 2013

By MICKEY POWELL - Bulletin Staff Writer

Tajuana Carter didn't know until Wednesday that after she goes to college, she can find the type of high-tech job she wants close to home.

Carter, a rising senior at Martinsville High School, is enrolled in the Academy for Engineering and Technology at the New College Institute (NCI). She plans to attend Virginia Tech and earn a degree in materials engineering.

On Wednesday morning, she and a dozen other students in the academy's Industry Fundamentals program this summer toured RTI International Metals. They learned about career opportunities with the company and saw workers use technology to mold and grind titanium, a metallic chemical element, into forms that other companies can use to make products, including airplanes.

The students will tour Arrington Motorsports today.

Carter, daughter of Issac and Sharon Carter, said she wants to become a materials engineer because she enjoys finding out what materials comprise products and how those materials can be made more durable.

She said she did not know before the RTI tour that the Martinsville area has such a high-tech company.

"I thought there was nothing you could do in Martinsville with a materials science degree," Carter said. Now that she knows differently, she said, "I'd definitely come back" and work in her hometown if the opportunity arose.

The academy is designed to prepare students to enroll in higher education programs pertaining to engineering and technology or seek entry-level jobs with companies using advanced technology.

There are many people like Carter who do not realize how advanced some local companies are, said Katie Croft, NCI experiential learning coordinator.

"We're trying to pull back the curtain" on those companies so area residents can find out what skills they will need to work for the firms and then acquire the skills, Croft said of the academy.

After the students earn degrees and/or acquire skills, RTI may be able to hire them, according to company executives who led the tour.

There is a shortage of industrial engineers in America, said Glenn Wood, human resources director at RTI. Noting that the engineering job market is hot right now, he predicted it will be even hotter in the future.

Having computer skills is essential to work for advanced manufacturers such as RTI, Wood said.

At RTI, employees in control rooms operate a large forge press and grinder, manipulating data on computer screens to run the equipment and form titanium into sizes and shapes for other companies.

Wood said molding and grinding titanium is "not a heavily populated, labor intensive industry," but one in which technology controlled by workers does most of the work.

"Pretty much I sit here all day and look at this ... screen," Terry Plaster, a grinder operator, told the students.

They watched a gigantic press shape a long wedge of titanium that had been heated to at least 1,500 degrees and was glowing orange. The press pounded the titanium as if the glowing metal was a stick of butter.

Scientists on RTI's staff determine how exactly hot titanium must get, how long it must be heated to get

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to certain temperatures and how many strikes of the press are needed to get the metal to stages needed for certain uses, according to Wood.

Basically, it's "like baking brownies" in that "recipes" are used, he said.

Computers are heavily used in that process.

James Strawn, a recent Martinsville High School graduate in the Industry Fundamentals program who will attend Old Dominion University to study computer information systems, said he was surprised at how much RTI's facility at the Patriot Centre industrial park is computerized.

Strawn is the son of James and Tamarya Strawn. Like Carter, he said he would be interested in bringing his skills home after he graduates.

But don't think that technological expertise is all that is needed to work for RTI.

As human resources manager, Wood said his job is to put together a team of employees who work well together to get RTI's mission accomplished.

Potential hires generally need "a blend of education, (industrial) experience and soft skills," such as being able to effectively communicate with others.

He emphasized that employees need at least high school diplomas, but he indicated that some college experience is preferable.

Also, getting a job at RTI — like anywhere else — has a lot to do with "making the best first impression" possible, Wood said.

That includes dressing appropriately for the job interview and making sure every word on a résumé is spelled correctly, he said.

Wood noted that RTI cross-trains its employees so they can do different jobs, such as when an employee has to be out.

The more duties that employees can do, the more money they generally earn, he said, adding that salaries start at $12.50 to $13 an hour.

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Heath: Lot riding on academy

Friday, January 4, 2013

From Bulletin staff reports

A lot is riding on the success of the New College Institute's Academy for Engineering Technology, so it must proceed carefully, the institute's board learned Thursday.

The academy was launched in August through a partnership with Virginia State University. It intends to prepare high school and college students for higher education programs in engineering and technology or to seek entry-level jobs with manufacturers using advanced technology.

"If we don't get this right, we will fail" in efforts to lure technology-driven companies to the area, said board Vice Chairman Mark Heath, who is president and CEO of the Martinsville-Henry County Economic Development Corp.

Considering that students have a vast amount of career options they can pursue, the number of area pupils interested in engineering and technology could be limited, NCI officials indicated.

"It's not for everybody," said Associate Director/Chief Academic Officer Leanna Blevins. "Engineering course work is not easy."

Thirty-three high school students are enrolled in the academy, but Patrick Henry Community College students will be encouraged to join, Blevins said.

Board member Del. Danny Marshall, R-Danville, asked if local industries are looking to recruit any of the current students.

Commonwealth Laminating often is mentioned when officials cite examples of local companies using advanced manufacturing technology. Commonwealth Laminating plans to expand and will need workers who know how to use the technology "sooner rather than later," Blevins said.

All of the students now enrolled will continue in the academy during the spring semester, said NCI Executive Director William Wampler.

Therefore, "it is a bit early to determine" if the academy's students will be interested in going to work in local industries, Blevins said.

Considering the area has lost so much industry, the idea of working in manufacturing could turn off some people, officials acknowledged.

Parents, who often are involved in helping their children choose careers, are "scared of the word 'manufacturing,'" and so is the community, Blevins said.

They are scared so much, she surmised, that if the institute had named the program the Academy for Advanced Manufacturing, nobody likely would have enrolled.

Advanced manufacturing jobs generally pay high salaries. When students realize they can attend the academy and learn skills they need to get a job paying, for example, $45,000 a year by the time they are 20 years of age, "that's going to be the selling point," Blevins said.

Another selling point, however, may be that academy students can advance in their learning as far as they want to before they enter the workforce. For instance, Blevins noted, the curriculum is being designed so students can earn certificates, two-year associate degrees or four-year bachelor's degrees.

They can stop at any of those points and go to work, and then pursue a higher credential as they have time and develop the interest, she and Wampler said.

Most students now enrolled in the academy have indicated they intend to pursue degrees, she added.

NCI's goal is for a total of at least 75 high school and PHCC students to enroll in the academy each year, with an equal number graduating annually with either a certificate or degree, Blevins said.

Funded by the state and The Harvest Foundation, NCI offers local access to high-level courses needed to earn degrees from universities across Virginia.

Twelve degree programs in various fields, from business administration and education to social work and criminal justice, are being provided at the institute through partner universities.

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NCI and PHCC have a goal of jointly advising 200 students annually at the college so they can enter the institute's degree programs without any problems, Wampler said.

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Harvest to give $8M to NCI for building uptown

This rendering shows the New College Institute's proposed building on the Baldwin Block as seen from Fayette Street. The Harvest Foundation will contribute up to $8 million for the building, which is estimated to cost between $10 and $15 million. The pledge is contingent on the New College Foundation raising $6.5 million from other sources. The foundation is seeking $5 million from the Virginia Tobacco Indemnification and Community Revitalization Commission.

More Photos

Wednesday, September 26, 2012

By MICKEY POWELL - Bulletin Staff Writer

The Harvest Foundation will contribute up to $8 million toward construction of a high-tech educational building for the New College Institute (NCI) on the Baldwin Block in uptown Martinsville, officials announced Tuesday.

Construction is expected to start in the spring. The total cost is estimated at $10 to $15 million, said NCI Executive Director William Wampler.

Harvest's pledge is contingent on the New College Foundation raising an additional $6.5 million from other sources.

Of that, $5 million is being sought from the Virginia Tobacco Indemnification and Community Revitalization Commission. Wampler said he is optimistic that the commission will approve a $5 million grant for the building Thursday because the commission's education subcommittee recently "acted favorably" toward the institute's request for the funds.

It is "very common" for the tobacco commission to fund efforts to improve higher education, he said.

That will leave NCI's private fundraising arm, the New College Foundation, to raise about $1.5 million. He said it will "aggressively pursue" grants as well as private donations.

A little more money may be needed, however, depending on the cost of technology to be installed in the building, he said.

Depending on the building's actual costs and how much money is raised, Harvest might not need to contribute the full $8 million "challenge grant," officials said.

Harvest's contribution will come from a $50 million challenge grant put forward in NCI's initial phases of development in the past decade to match state funding for the institute, they said.

Artist renderings have been developed for the roughly 50,000-square-foot building, but no blueprints exist yet, Wampler said.

The building is to be erected on the vacant block that borders West Church, Market, Fayette and Moss streets and is named after the late local physician and philanthropist Dr. Dana O. Baldwin. Wampler said NCI will find a way for the building to pay homage to Baldwin.

Construction could take up to 36 months, Wampler said, adding that grading and other preliminary work at the site could start as soon as November.

The facility is to be home to advanced manufacturing, futuristic health care and entrepreneurship programs NCI is developing. It also is to have a "grand hall" where local events can be held, plus offices for NCI staff members. The Martinsville-Henry County Visitors Center and the Martinsville-Henry County Economic Development Corp. (EDC) also are to move there.

NCI is working with the EDC to make sure area residents have skills they need to do jobs available in the region, Wampler said.

Industrial-style bays in the building will have technology so that faculty and students can use equipment and computer software to manipulate and interpret data for engineering design in advanced manufacturing, information supplied by NCI shows.

Wampler said the tobacco commission is "very excited" about how NCI aims to align its advanced manufacturing program with technology used in a Rolls Royce plant in Prince George County that makes aircraft engine parts and a nearby industrial research facility, the Commonwealth Centre for Advanced Manufacturing (C-CAM).

Students in NCI's program will train on equipment that is "fairly close" to devices that Rolls Royce

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workers use, Wampler said.

He hopes Rolls Royce and C-CAM can exchange interns with NCI, he said.

The building will be “a very large expenditure,” Wampler said, “... but we’ve got to do it” to ensure people are trained for local manufacturing jobs of the future.

NCI’s “next generation” health care program is planned to start next spring. It will train people to use the most up-to-date health care technology, such as remote equipment that monitors patients after they leave a hospital in hopes of preventing a return visit, Wampler said.

The institute’s goal is to provide such training to at least 250 people in the next few years, he said, noting that predominantly rural areas of Virginia like Southside have shortages of health care workers.

Entrepreneurship courses are to be offered in every academic major. Even if students do not start their own businesses, their experiences in the classes in solving real-world issues should help them in other jobs, and employers today want their workers to have such skills, according to Wampler.

Wampler said that after the building is finished, NCI will leave the Pythian Building, where its administrative offices are, and Jefferson Plaza, where some of its classrooms are. The King Building next to the former courthouse and science labs on Fayette Street will continue to be used by NCI, he said.

He acknowledged that some people have asked why, amid close cooperation with PHCC, the institute does not put its new facility at the college.

“We want to maintain a presence uptown” since NCI already has facilities there, Wampler said.

Also, he said he understands that PHCC is running out of space on campus.

NCI offers local access to courses needed to earn bachelor’s and master’s degrees conferred by various universities statewide. Officials have said the institute’s ultimate goal is to become a branch campus of a university.

That remains an eventual possibility, Wampler said. But for now, university partners are reluctant to go that far due to economic constraints, he said.

If NCI is successful at meeting other goals, such as training enough people to fill jobs at local high-tech industries, the move toward becoming a branch campus might be hastened, he indicated.

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'Dynamic duo' make the case for businesses

Patrick Henry Community College President Angeline Godwin and New College Institute Executive Director William Wampler discuss their approach to help attract businesses to the area. (Bulletin photo by Mike Wray)

Sunday, October 27, 2013

By BEN R. WILLIAMS - Bulletin Staff Writer

Call them the dynamic duo.

When new businesses look to locate to Martinsville/Henry County, or when an established business is considering expanding in the area, Patrick Henry Community College (PHCC) President Dr. Angeline Godwin and New College Institute (NCI) Executive Director Sen. William Wampler are two of the first people that the leaders of those businesses talk to.

If you asked either of them why they're a well-suited team to draw businesses to the area, each would first point out the skills of the other.

"Dr. Godwin is one of the absolute best that I have ever worked with as a subject matter expert," Wampler said. "I've been at this game for over a quarter of a century, and we are very fortunate to have Dr. Godwin as the president of Patrick Henry. She's some of the best tonic this community could have as we try to generate capital investment and create jobs. It should not come as a surprise that she's at the tip of the spear trying to help attract industry to the community."

"I could equally give Sen. Wampler accolades for being someone who's been a public servant for 24 years," Godwin said. "He has extensive relationships all the way through the commonwealth and beyond to bring to bear."

Mutual respect for each other's skills and experience is just one element of the formula behind their working relationship. When talking to them both, it quickly becomes clear that both are absolutely committed to joining their institutions to make Martinsville/Henry County as attractive as possible to prospective employers.

The emphasis on cooperation between PHCC and NCI — never competition — may seem like a simple idea, but it has a profound effect.

On Sept. 25, Eastman Chemical Co. announced that it will invest $40 million and hire 25 employees over the next three years to expand its infrastructure and manufacturing capabilities in Henry County and Martinsville. During the announcement, Eastman President Mark Costa specifically mentioned the partnership between PHCC and NCI as an example of "what we need to see in this country" to move forward economically.

"We didn't know he was going to say that," Wampler said. "We'd been working with management for the last year just to understand their needs and try to meet their needs, but we had no idea he was going to make those comments. It was a pleasant surprise."

"That was my Christmas present — for the next five years," Godwin added, laughing. "It's that good."

According to Wampler, he and Godwin have "agreed to agree." If it makes sense to share faculty or training equipment between the two schools, they will find a way to do so, because the schools are stronger as a unified force than as two competing entities.

"We know it's our mission to work together, but we need to demonstrate that to a prospective business," he said. "We can meet their workforce needs no matter what."

A well-trained, flexible workforce, both agreed, is the biggest draw for business that a community could possibly have.

When talking to business leadership, Godwin said, "workforce is the first question, the second question and the last question. Most everybody has a water line, a sewer line and a highway. If an industry comes to us and says, 'We need this kind of workforce,' it's our collective responsibility to determine how to deliver that, and who is in the position to best serve that client. We are totally committed to the idea that the success of the student equals the success of the community."

"What is consistent," Wampler added, "particularly in advanced manufacturing, is that you must have a pipeline of students that can fill their needs, not just for today, but for the long-term."

When they sit down with business leaders, Godwin said, the goal is not to sell them the community. The goal is to go into the meeting with an understanding of the company's needs, suggestions on how to meet those needs and a willingness to listen.

"We do our homework," she said, "and we speak pretty definitively at the table, but then we listen to what they have to say. It is really the power of customization. We come to the table telling them what we can do, and then they tell us exactly what they need, and then we tool that so that they can take our

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representation and literally drop it into their bottom line in assessing this community.”

“Having been in the game of trying to attract capital investment and create jobs,” Wampler said, “I’ve never lost the first prospect because the community was over-educated. A well-educated community with solid skills will attract more industry than just about any other tool we have in the toolbox.”

When they talk to industry leaders, both go in realizing how much good a new business could bring to the community. Do they ever get nervous?

“If you stop (feeling nervous),” Wampler laughed, “you need to get out of the business.”

“There’s a lot on the line,” Godwin said. “There’s a lot on the line for the community; there’s a lot on the line for these higher education institutions. It is very serious business, and we take it very seriously.”

The textile mills and furniture factories that once dotted the landscape of Martinsville/Henry County are largely gone, replaced in part with smaller advanced manufacturing firms that require dozens of employees instead of hundreds or thousands.

“It’s the new economy, and it’s the new reality,” Godwin said. “In terms of looking at the future quality of life for our community, we’re really looking at a generation of jobs that, for less of an investment in their education dollar-wise, has a very high return on what their earning capacity is. We can’t say that enough.”

“Take Commonwealth Crossing (Business Centre) as an example,” Wampler said. “You’ll have two leaders in higher education in this community, well-versed on Commonwealth Crossing, understand from first-hand experience how critical that is to the portfolio of recruiting new business to this community. And, when you really peel the onion back, you find how Patrick Henry and NCI are going to work together to meet the workforce needs, whether it’s one major employer at Commonwealth Crossing in the next couple of years or whether it’s 10. That’s the depth that we have and the commitment that we have to work together.”

“We understand this is a part of our role,” Godwin added. “This is our part of the recipe. This is what we have an opportunity to bring to the table on behalf of this community. It’s exciting, and it’s 24/7.”

Ultimately, she said, the community plays a major role in the success of drawing business to the area. By the time Wampler and Godwin sit down with business leaders to discuss a company potentially coming to the area, the area already has been through a vetting process.

“The companies that we actually know are looking at us,” Godwin said, “we have already gone through several tiers of the filter by then. They’re reading every word we say in the local paper. Before they move their people here, they’ve got to make sure that this is a great place for people to work and live, because they know that comes front and center to having a successful workforce. So I think our community should always be reminded of the role that they play in economic development.”

The community is on a tipping point, both agreed, and over the next several years, the ingredients are in place for Martinsville/Henry County to see the emergence of its next great economy.

“The community has taken its hits, it’s reflective, and now I believe our community and business leadership are all in,” Godwin said. “I think in the next five years, we will see consistent growth and expansion of some of our leading companies here, and I believe 100 percent we will be the new home of some of the more cutting-edge companies in the entire commonwealth. And (our area) will be seen as a critical ingredient for the whole Virginia economy.”

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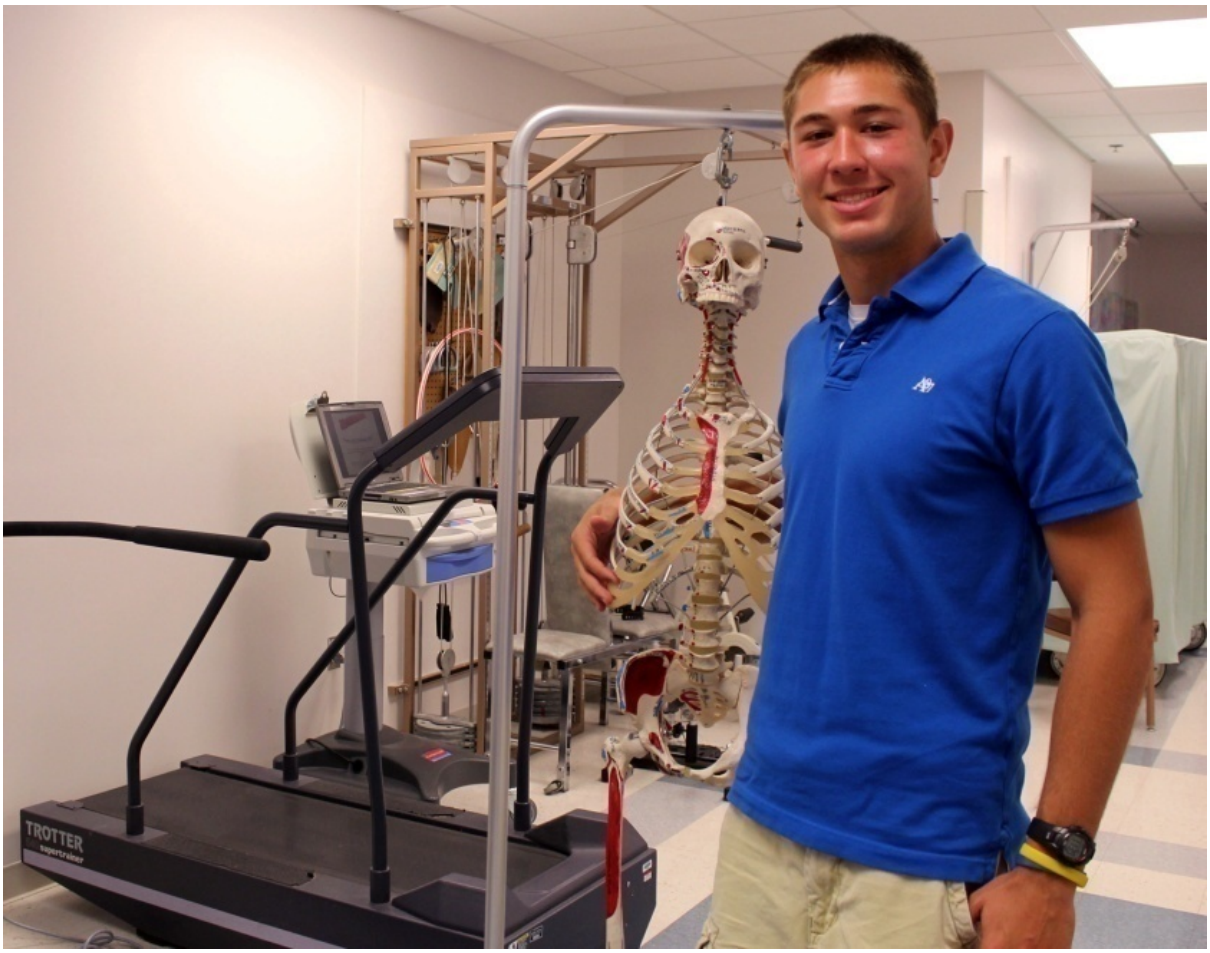
Martinsville High School students participate in a design challenge at Patrick Henry Community College's Regional STEM Day.



A Martinsville High School senior knows he wants to go into the medical field, but has not decided exactly what career path to take. After signing up for an internship with two different medical offices, he is paired with Memorial Hospital of Martinsville and Henry County. He shadows two doctors a few mornings a week, and spends the other days in the hospital's physical therapy office.

In preparation for a graphic design challenge, Solid Stone Fabrics' owner David Stone gives Martinsville High School art students a tour, showing them how a design is printed and then "tattooed" on the fabric without using water.

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